

**Georgia Statewide
Transportation Plan
and Process**

Task 5 Transportation System Profile

**final technical
memorandum**

prepared for

Georgia Department of Transportation

prepared by

Cambridge Systematics, Inc.

with

Day Wilburn Associates, Inc.

November 2000

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1.0 Transportation Systems Profile

The transportation system in Georgia is broad-based, consisting of all of the major transportation modes. The roadway and bridge system is the network that provides mobility to personal vehicles, the trucking industry, as well as most public transit services. In addition to bus systems operated on the roadway system in many urban and rural areas of the state, the MARTA system provides heavy rail transit service on exclusive right-of-ways in the Atlanta region. Scheduled intercity passenger bus service is generally available to communities throughout Georgia. The airport network in Georgia provides commercial air service to several airports with the vast majority of services operated out of Hartsfield International Airport in Atlanta, and general aviation capabilities throughout the state. The rail industry provides movement for large quantities of freight, and limited passenger service. Waterborne freight service is provided at the ports of Savannah, Brunswick, and Columbus/Bainbridge.

The efficient operation of and interconnections among these different modes is essential to provide Georgians with a vibrant economy, a sound environment, and to maintain and improve the quality of life. In order to ensure that the Statewide Transportation Plan Update provides for the most efficient transportation system, it is necessary to have an understanding of the transportation system as it exists at the present. The purpose of this memorandum is to provide profiles of the several transportation modes currently operating in Georgia. These profiles document what service is available, how extensively the system elements are used, how the system elements are performing, and any other underlying characteristics that might be important for each mode. The profiles also document current plans to improve the system. These profiles will serve as the basis for the quantitative evaluation of the existing system and a variety of future scenarios that will be conducted in Task 7.

2.0 Roadways and Bridges

Georgia's highway and bridge system serves as the backbone of its transportation system. Automobiles traveling on this system account for almost all personal travel. Trucks traveling on this system account for the majority of freight movements. In addition to serving these principal modes, the highway and bridge system is an important component of all other transportation modes. Buses travelling on highways provide the vast majority of public transportation service. The highway system serves as the principal access to water ports, airports and rail terminals. The efficient operation of this system is essential for the mobility of people and goods within Georgia.

■ 2.1 Roadways and Bridge Infrastructure

The Georgia State Highway System is recognized as one of the best in the Southeastern U.S. and the nation as a whole. The road system consists of approximately 114,000 miles of public roads.¹ Of these roads, approximately 18,000 miles, or 16 percent of the total is owned and maintained by the Georgia Department of Transportation. Roads under the jurisdiction of the counties consist of approximately 81,000 miles or 71 percent, while the balance of 15,000 miles or 13 percent is the responsibility of municipalities and other government agencies.

The roadways in Georgia are classified according to their function. This functional classification serves to guide design standards of the roadway, provides eligibility for certain funding programs and allows comparison of sections of roadways with others performing similar functions. The Interstate and Principal Arterials serve to connect national and regional origins and destinations. They are intended to carry the majority of travel. The Interstate system, the highest functional classification, consists of 1,243 miles of roads, which represents one percent of the total miles. The Arterial system consists of 75,954 miles, representing 12 percent of the total miles. The Collector system, which serves to gather and distribute traffic to the Arterial system, consists of 23,247 miles, which represents 20 percent of the total miles. The balance of the 75,954 miles, or 67 percent, consists of the local street network, which serves as access roads to individual residential, commercial, industrial, and other local land uses.

The National Highway System (NHS) was established by the Intermodal Surface Transportation Efficiency Act (ISTEA) to serve as the network of highways that link different modes of transportation. It represents a further classification of the highway system by function. The NHS designation also makes these roadways eligible for special federal funding programs. By law the NHS roads may consist of no more than four

¹ 1998 Highway Performance Monitoring System database, Georgia Office of Information Services.

percent of a state's total miles. In Georgia, the NHS consist of the 1,243 miles of Interstate highways, 3,245 miles of other principal highways, and 84 miles of connector roads to major intermodal facilities such as ports, airports, AMTRAK stations, truck, rail and pipeline terminals, and major public transit, ferry, and other passenger terminals. The Georgia DOT is responsible for 95 percent of the NHS miles, with the remainder the responsibility of counties, municipalities and other governments.

The Governor' Road Improvement Program (GRIP) is a state system which is planned to connect 95 percent of Georgia's cities with a population of 2,500 or more to the Interstate System. The GRIP system receives special funding under the Georgia Sate Budget. The minimum design of roads on the GRIP system will be a four-lane road. Ultimately 98 percent of all areas within the state will be within 20 miles of a four-lane road. The GRIP system consists of 14 economic development highway corridors and 2,690 miles of roadways. As of 1998, almost 56 percent of the GRIP system had been completed.

Roadways in Georgia can also be classified according to the area in which they are located. The Highway Performance Monitoring System (HPMS) classifies roads as rural (according to the U.S. Census designation), small urban (population between 5,000 and 50,000), and urban (population greater than 50,000). According to these designations, there are almost 87,000 miles of rural roads in Georgia, representing 76 percent of the road miles. Roads in small urban areas total 7,000 miles or six percent of the road miles. Roads in urban areas total 20,000 miles or 18 percent of the road miles.

There are over 14,700 bridges in Georgia as reported in the National Bridge Inventory (NBI). Of these bridges, 6,489, or 44 percent of the total are owned and maintained by the Georgia Department of Transportation. Bridges under the jurisdiction of the counties total 7,360 or 50 percent of all bridges. 561 bridges or four percent are the responsibility of municipalities and other government agencies, and 358 or two percent are in private ownership, mostly railroads.

■ 2.2 System Usage

The usage of the highway and bridge system is most commonly measured in terms of Daily Vehicle Miles of Travel (DVMT). DVMT is calculated by multiplying the length of a section of roadway in miles by the Annual Average Daily Traffic (AADT) that travels on that section. The breakdown of the DVMT can be compared to the physical system to determine system performance and to help prioritize system needs.

In 1998, as identified by the HPMS, there were almost 265 million vehicle miles of travel per day. Not surprisingly, the State Highway System accommodates the majority of the highway travel in Georgia, or over 64 percent, even though it represents only 16 percent of the total road miles. County roads carry 27 percent of the DVMT on 71 percent of the road miles, municipalities carry eight percent of the DVMT on 12 percent of the road miles, and roads under other government jurisdiction carry one percent of the traffic on one percent of the road miles.

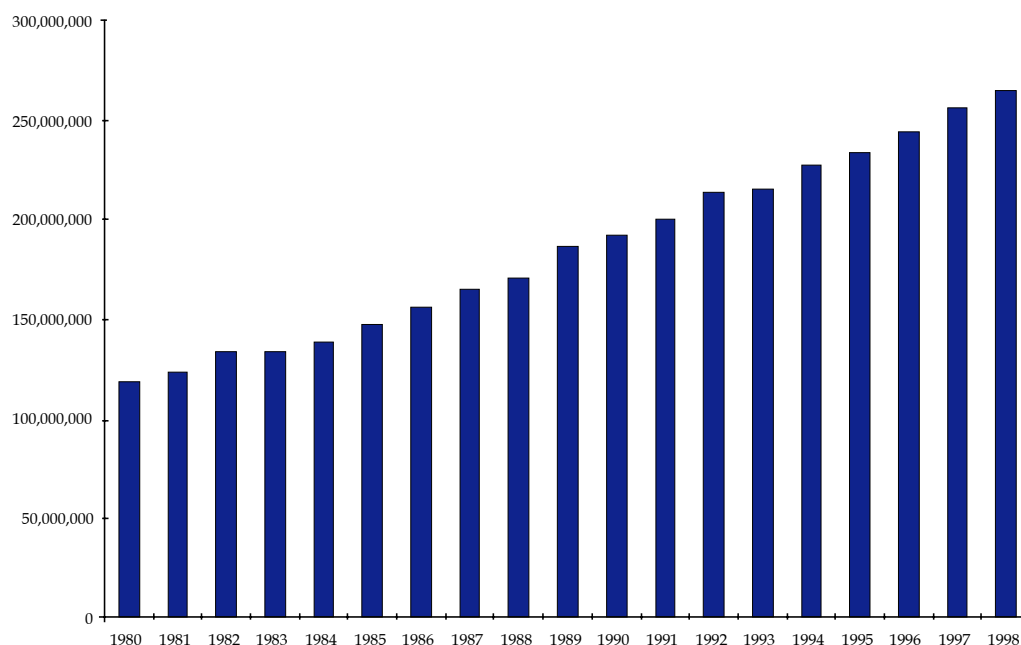
Roads with a higher functional classification also carry a much greater share of travel than their share of road miles. The Interstate System, which represents only one percent of the road miles, carries 27 percent of DVMT. The arterial system, which represents 12 percent of the road miles, carries 42 percent of the DVMT. The collector system carries 20 percent of the traffic on 15 percent of the road miles. The local system carries the remaining 16 percent of the DVMT on 67 percent of the road miles.

The National Highway System carries a significant proportion of Georgia's highway traffic. The NHS carries 40 percent of the DVMT on only four percent of the road miles.

Roads in urban areas carry a much larger share of the DVMT compared to their share of the road miles. Urban area roads carry 49 percent of the DVMT on 18 percent of the road miles. Roads in small urban areas carry nine percent of the DVMT on six percent of the road miles. Roads in rural areas carry 42 percent of the DVMT on 76 percent of the road miles.

The growth in Daily VMT has been increasing at a rate faster than that of population. During the period from 1980 to 1998 the population of Georgia grew from 5.5 million to 7.6 million for an annual growth rate of 1.9 percent.² During the same period DVMT grew from 118 million to almost 265 million or an annual growth rate of 4.5 percent (see Figure 2.1). During this same time there has been little growth in the highway infrastructure.

Figure 2.1 Growth in DVMT



²*Intercensal Estimates of the Total Resident Population of States*, Population Estimates Branch, U.S. Bureau of the Census.

■ 2.3 Highway and Bridge Performance

Pavement Condition

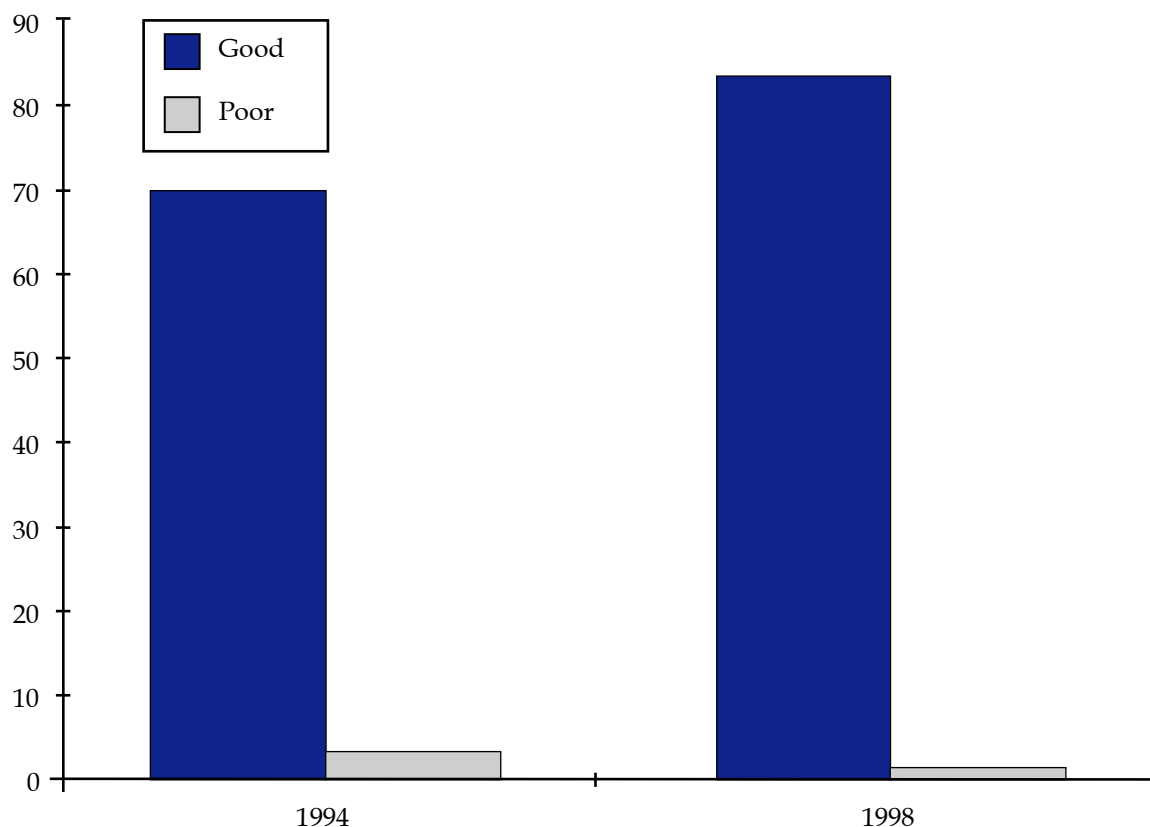
Measurements of the condition of the pavement are a requirement of the HPMS. Pavement condition is measured in terms of the Present Serviceability Rating (PSR). PSR is measured based on the standards given in Table 2.1.

Table 2.1 Present Serviceability Rating (PSR)

4.0 – 5.0	Only new (or nearly new) superior pavements are likely to be smooth enough and distress free (sufficiently free of cracks and patches) to qualify for this category.
3.0 – 4.0	Pavements in this category, although not quite as smooth as those described above, give a first class ride and exhibit few, if any, visible signs of surface deterioration.
2.0 – 3.0	The riding qualities of pavements in this category are noticeably inferior to those of new pavements, and may be barely tolerable for high-speed traffic.
1.0 – 2.0	Pavements in this category have deteriorated to such an extent that they affect the speed of free-flow traffic. Flexible pavement may have large potholes and deep cracks. Distress occurs over 50 percent of the surface.
0.0 – 1.0	Pavements in this category are in an extremely deteriorated condition. The facility is passable only at reduced speeds, and with considerable ride discomfort. Large potholes and deep cracks exist. Distress occurs over 75 percent or more of the surface.

Pavements with a PSR of 3.5 or higher are considered to be in good condition. Roads with a PSR of less than 2.0 (2.5 on Interstate highway) are considered to be in poor condition. Based on these standards the condition of the pavements in Georgia in 1994, prior to the adoption of the 1995 Statewide Transportation Plan (SWTP), was reviewed and compared to conditions in 1998, the most recent year available. The results of those findings are shown in Figure 2.2. The percentage of Georgia's roads with good pavement condition increased from 70 percent in 1994 to 83 percent in 1998. The percentage of roads with poor pavement condition declined from three percent in 1994 to one percent in 1998.

Figure 2.2 Pavement Condition by Percentage of Miles



Georgia has been noted for the maintenance of its roadways. According to a report prepared by the Public Affairs Research Council of Alabama (PARCA),³ Georgia had the best pavement in the Southeast based on 1995 conditions. Georgia's percentage of pavement in good condition at 78 percent was the highest among the 12 states studied in detail and its percentage of pavement in poor condition at two percent was the lowest. The study found that the average of good pavement in the Southeast was 51 percent and the percentage of pavement in poor condition was nine percent. For the balance of the U.S. the percentage of roads with good pavement condition was 38 percent and the percentage in poor condition was 18 percent. Georgia's pavements are in much better condition than its neighboring states, than the rest of the U.S., and have improved since the adoption of the 1995 SWTP.

A review of the 1998 HPMS was conducted to determine if pavement condition varied by roadway ownership, functional classification or by urban/rural designation. Pavement condition is collected on all of the GDOT roads, but only a sample is collected on roads under other government jurisdictions. Pavement condition was sampled on 13 percent of the county road miles, on 11 percent of the municipal road miles and on 16 percent of the

³The Quality and Cost of Alabama's Roads, The PARCA Report, Number 29/Spring 1997. The Public Affairs Research Council of Alabama.

road miles under other government jurisdiction. The overall sample of all road miles was 27 percent. The sample sections are chosen randomly according to standards established by the Federal Highway Administration (FHWA).

The weighted average of PSR by category was found by factoring the PSR of each section by the percent of miles that this section represented of the category total. The pavement condition of the State Highway System was found to have a weighted PSR of 4.0, which indicates excellent pavement condition. The sampled sections of the county, the municipal, and the other government miles each had a weighted PSR of 3.9, which is only slightly below excellent.

In compliance with HPMS requirements, almost 100 percent of the road miles functionally classified as Rural Interstates, Urban Interstates, Rural Principal Arterials, Urban Freeways and Expressways, Urban Other Principal Arterials, Rural Minor Arterials, Urban Minor Arterials, Rural Major Collectors, and Urban Collectors were surveyed for pavement condition. Only spot studies, a less than one percent sample, were conducted on those roads that are not eligible for federal funding (Rural Minor Collectors and Rural and Urban Local Roads). The results of the weighted PSR analysis are shown in Table 2.2. The pavement condition on all major functionally classified roads is excellent, ranging from a high of 4.3 on the Interstates to 3.9 for Urban Other Principal Arterials. It is difficult to draw conclusions for the lower functional classifications due to the extremely small sample, but even those sections are at least in good to fair condition.

Table 2.2 Pavement Condition By Functional Classification

Rural Functional Classifications	Weighted Average, PSR	Urban Functional Classifications	Weighted Average, PSR
Rural Interstates	4.3	Urban Interstates	4.3
Rural Principal Arterials	4.1	Urban Freeways and Expressways	4.1
Rural Minor Arterials	4.0	Urban Other Principal Arterials	3.9
Rural Major Collectors	4.0	Urban Minor Arterials	4.0
Rural Minor Collectors	2.6	Urban Collectors	4.0
Rural Local	3.1	Urban Local	3.1

Source: 1998 HPMS, GDOT.

Pavement conditions on the National Highway System are also excellent with a weighted PSR of 4.1 on the principal NHS roads and 3.9 on the NHS Intermodal Connectors. And as shown in Table 2.2 above, the pavement condition is excellent in both rural and urban areas.

It is also possible to calculate the weighted average PSR for counties that are classified as having a greater than average concentration of population which qualifies under

Environmental Justice (EJ) designations.⁴ The results of this review are shown in Table 2.3. Based on the results of this analysis, there is virtually no difference in pavement condition between EJ and non-EJ counties.

Table 2.3 Pavement Condition by Environmental Justice

	Minimum Weighted PSR	Maximum Weighted PSR	Average Weighted PSR
EJ Counties	3.5	4.4	4.0
Non-EJ Counties	3.6	4.3	4.0

Bridge Conditions

The over 14,000 bridges in Georgia are assessed through a regular bridge inspection process. Bridges are identified as structurally deficient or functionally obsolete. Structurally Deficient bridges are those bridges whose physical condition requires them to be closed or posted with weight limits. This condition indicates a public safety problem. Functionally obsolete bridges are those bridges that have some design-related deficiencies, such as narrow roadways or steep approaches, which affect convenience. An examination was made of the National Bridge Inventory for 1994 and 1998 to determine how bridge conditions have changed since the adoption of the 1995 SWTP. The results of that review are shown in Figure 2.3.

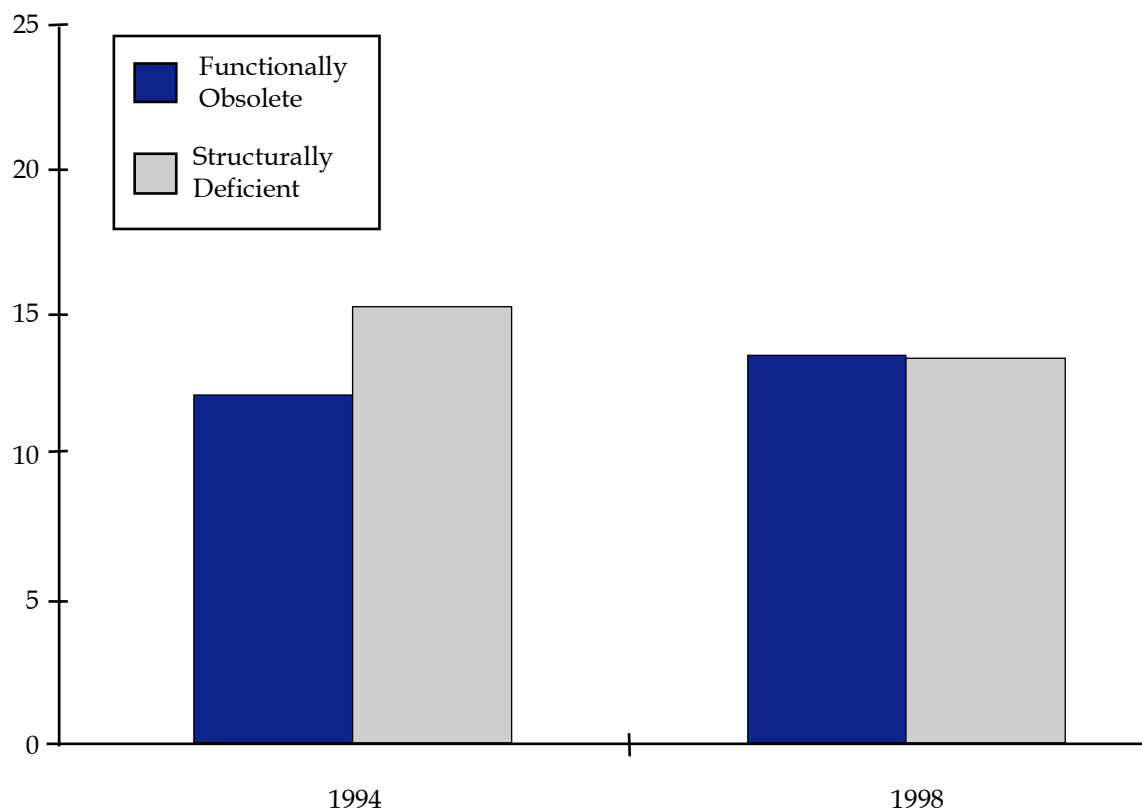
⁴Environmental Justice (EJ) counties are those counties that have a greater than normal percentage of the population that are either the low-income or minorities as defined in Executive Order 12898. *Federal Actions to Address Environmental Justice In Minority Populations And Low-Income Populations*, February 11, 1994 “Greater than normal” has been defined as those counties whose percentage of EJ population is more than one standard deviation above the state average based on the latest, 1990, U.S. Census.

The Georgia average concentration below the federal poverty line is 19 percent. Sixty-seven percent, one standard deviation, of the counties fall within the range of 12 percent and 26 percent. Statistically, a more than normal concentration below the poverty line is a concentration greater than 26 percent.

The Georgia average minority concentration is 29 percent. Sixty-seven percent, one standard deviation, of the counties fall within the range of 12 percent and 46 percent. Statistically, a more than normal concentration of minorities is greater than 46 percent minority population in a county.

A county is defined as meeting the EJ criteria if either of the above criteria is met. There are 41 counties that meet one of the criteria.

Figure 2.3 Percentage of Bridges Rated Deficient



Based on this review, it was found that the percentage of the over 14,700 bridges in Georgia that were rated deficient or obsolete decreased slightly from 28.0 percent in 1994 to 26.4 percent in 1998. The number of structurally deficient bridges decreased by 263, reducing the percentage from 15.6 percent in 1994 to 13.7 percent in 1998. The number of functionally obsolete bridges increased by 197, increasing the percentage from 12.4 percent in 1994 to 13.7 percent in 1998. This increase is in part the result of increases in traffic volumes. Since design standards are based on usage, as volumes increase the design requirements also increase. Georgia has made progress in reducing the number of unsafe bridges, but as DVMT continues to increase throughout Georgia, previously acceptable bridges will continue to become functionally obsolete.

Based on the previously cited PARCA report, Georgia's bridges compare favorably with both the 12 Southeastern states and the balance of the U.S. Georgia's percentage of bridges that are either functionally obsolete or structurally deficient was cited by PARCA as 28 percent in 1994. This was the third lowest percentage in the Southeast and was less than the overall average of 32 percent for both the Southeast and the balance of the U.S.

In addition to the overall condition of bridges, a review was also undertaken of bridge condition by ownership and by functional classification. Table 2.4 shows the percent of bridges that are structurally deficient or functionally obsolete by ownership. State bridges are in the best structural condition of the publicly owned bridges. Only four percent of the state bridges are structurally deficient, while 24 percent of the county bridges and 18 percent of the municipal and other publicly owned bridges have structural deficiencies.

Of particular concern is the fact that 93 percent of the privately owned bridges on public roads are structurally deficient.

Table 2.4 Bridge Condition by Ownership

Ownership	Percent Structurally Deficient	Percent Functionally Obsolete
Georgia DOT	4%	20%
County	24%	11%
Municipal and other Governments	18%	23%
Private	93%	5%

Table 2.5 shows bridge condition by functional classification. Bridges on the arterial system, in both urban and rural areas, are in better structural condition than the collector or local system. The percent of bridges with structural deficiencies ranges from three percent to 11 percent on the rural Arterial system, including Rural Major Collectors, and from 22 percent to 30 percent on Rural Minor Collectors and Local roads. The percent of bridges with structural deficiencies ranges from eight percent to 16 percent for the Urban Arterial system and from 23 percent to 24 percent on Urban Collectors and Local roads. Functionally deficient bridges range from nine percent to 31 percent for all functional classifications. The percentage of bridges with design deficiencies is greater on the Arterial System excluding the Interstates, in both urban and rural areas. In addition, a review was undertaken of the bridges on the National Highway System. Of the NHS bridges seven percent are rated as structural deficient and 18 percent are rated as functionally obsolete.

Table 2.5 Bridge Condition by Functional Classification

Rural Functional Classifications	Percent Structurally Deficient	Percent Functionally Obsolete
Rural Interstates	3%	11%
Rural Principal Arterials	5%	20%
Rural Minor Arterials	6%	24%
Rural Major Collectors	11%	13%
Rural Minor Collectors	22%	9%
Rural Local	30%	9%
Urban Interstates	8%	15%
Urban Freeways and Expressways	10%	31%
Urban Other Principal Arterials	12%	22%
Urban Minor Arterials	16%	24%
Urban Collectors	23%	29%
Urban Local	24%	14%

It is also possible to calculate the bridge conditions for counties that are classified as having a greater than average Environmental Justice (EJ) concentration. The results of this review are shown in Table 2.6. While the percentage of bridges that are functionally obsolete are identical for the two groups, the EJ counties have a higher percentage of structurally deficient bridges.

Table 2.6 Bridge Condition by Environmental Justice

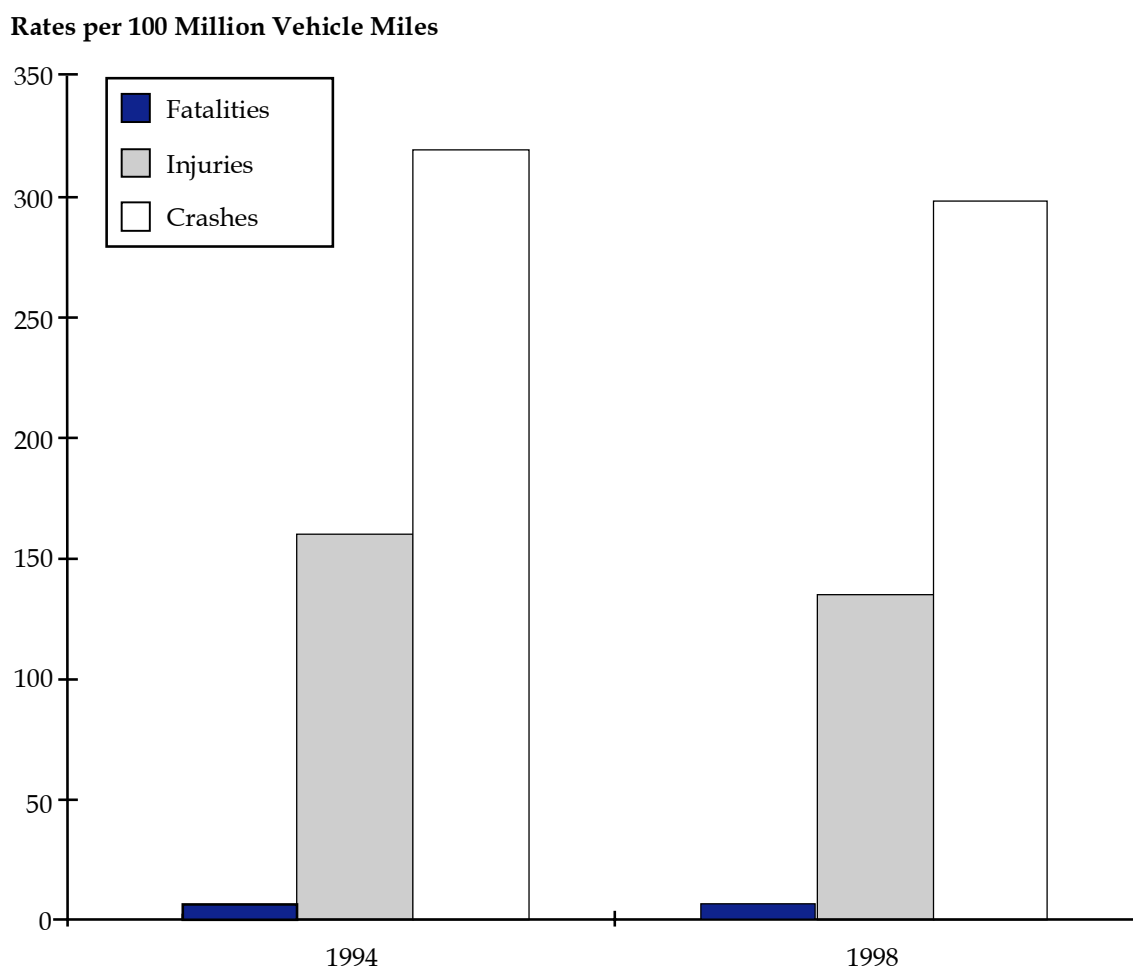
	Percent Structurally Deficient	Percent Functionally Obsolete
EJ Counties	21%	15%
Non-EJ Counties	17%	15%

Safety

Georgia has a commitment to safe highways. In order to determine how safety on the highways has changed since the adoption of the SWTP in 1995, a review was conducted of the records of the Georgia Department of Public Safety (DPS). The total number of crashes increased by 18,714 from 270,688 in 1994 to 293,258 in 1998. Persons injured in crashes decreased by 8,574 from 140,078 in 1994 to 131,504 in 1998. Fatalities increased by 142 from 1,437 in 1994 to 1,579 in 1998.

While any increases are cause for concern, these increases occurred during a period when traffic volumes were increasing at a rate of 4.5 percent per year. In order to normalize for traffic growth, safety performance is generally reported in terms of crashes per 100 million vehicle miles of travel (100 MVM). The Georgia DPS calculated those rates using the DVMT values supplied by DOT. Those rates show that the chances of being in a highway crash, as demonstrated by these rates, have been reduced during the period from 1994 to 1998. The results of this comparison are shown in Figure 2.4.

Figure 2.4 Georgia Highway Crash Rates



Source: Georgia DPS/DOAS

This comparison shows that the crash rate decreased from 327 to 301 crashes per 100 MVM, an eight percent decrease. The injury rate decreased from 169 to 137 injuries per 100 MVM, a 19 percent decrease. The fatality rate decreased from 1.74 to 1.64 fatalities per 100 MVM, a six percent decrease.

In addition to the total crash rates, a review was also conducted of crash rates by road type. Road type is classified by DPS, according to roadway ownership plus an additional category for the Interstate System. The results of that comparison are shown in Table 2.7.

Table 2.7 Crash Rates by Road Type

Road Type	1994 Crash Rate	1998 Crash Rate	1994 Injury Rate	1998 Injury Rate	1994 Fatality Rate	1998 Fatality Rate
Interstate	106.2	111.5	52.8	48.9	0.62	0.73
State	311.0	272.7	181.9	142.7	2.31	2.20
County	311.8	312.5	155.9	133.2	1.87	1.72
City	1,071.1	996.5	491.5	403.9	2.25	1.85
Total	327.0	301.0	169.2	136.8	1.74	1.64

While the comparison of crash rates by road type generally follows the overall decrease, there are some areas of concern. The Interstate System is the safest system, in terms of crash rates, during both periods, but it is also the only road type that shows any increases in the rates. The Interstate crash rate has increased from 106.2 per 100 MVM in 1994 to 111.5 per 100 MVM in 1998, an increase of five percent. The Interstate fatality rate has increased from 0.63 per 100 MVM to 0.72 per 100 MVM in 1998, an increase of 18 percent. Crash and injury rates are much higher on City Streets than the Georgia average, although the fatality rate is only slightly higher.

A review of the crash rates by Environmental Justice counties shows that, with the exception of Fulton County, there is little difference in the crash, injury or fatality rates between the 41 EJ counties and the 118 non-EJ counties as shown in Table 2.8. For the EJ counties, excluding Fulton County, the crash and fatality rates per 100 MVM are only two percent higher than the non-EJ county averages and the injury rate is only four percent higher. Fulton County has a very high share, 12 percent, of Georgia's total VMT. Since there is evidence that accident rates increase with increasing VMT, the higher accident rates in Fulton County are not unexpected.

Table 2.8 1998 Crash Rates by Environmental Justice

	Non-EJ Counties	EJ Counties	EJ Counties (Excluding Fulton Co.)
Crashes per 100 MVM	309	368	316
Injuries per 100 MVM	157	181	163
Fatalities per 100 MVM	1.78	1.63	1.81

An analysis of specific classes of crashes was also undertaken. The classes investigated were large trucks, pedestrians, bicycles, and rail crossings. For these special classes of accidents, specific traffic volume information is not available and the analysis was based on a comparison of the total crashes, injuries, and fatalities.

During the course of the initial public forums a concern was raised about crashes involving large trucks. Since truck data was not available for 1994, 1995 was used as the base year. A comparison of the number crashes, injuries and fatalities involving large trucks as well as the percentage that these crashes represent of the total are show in Table 2.9.

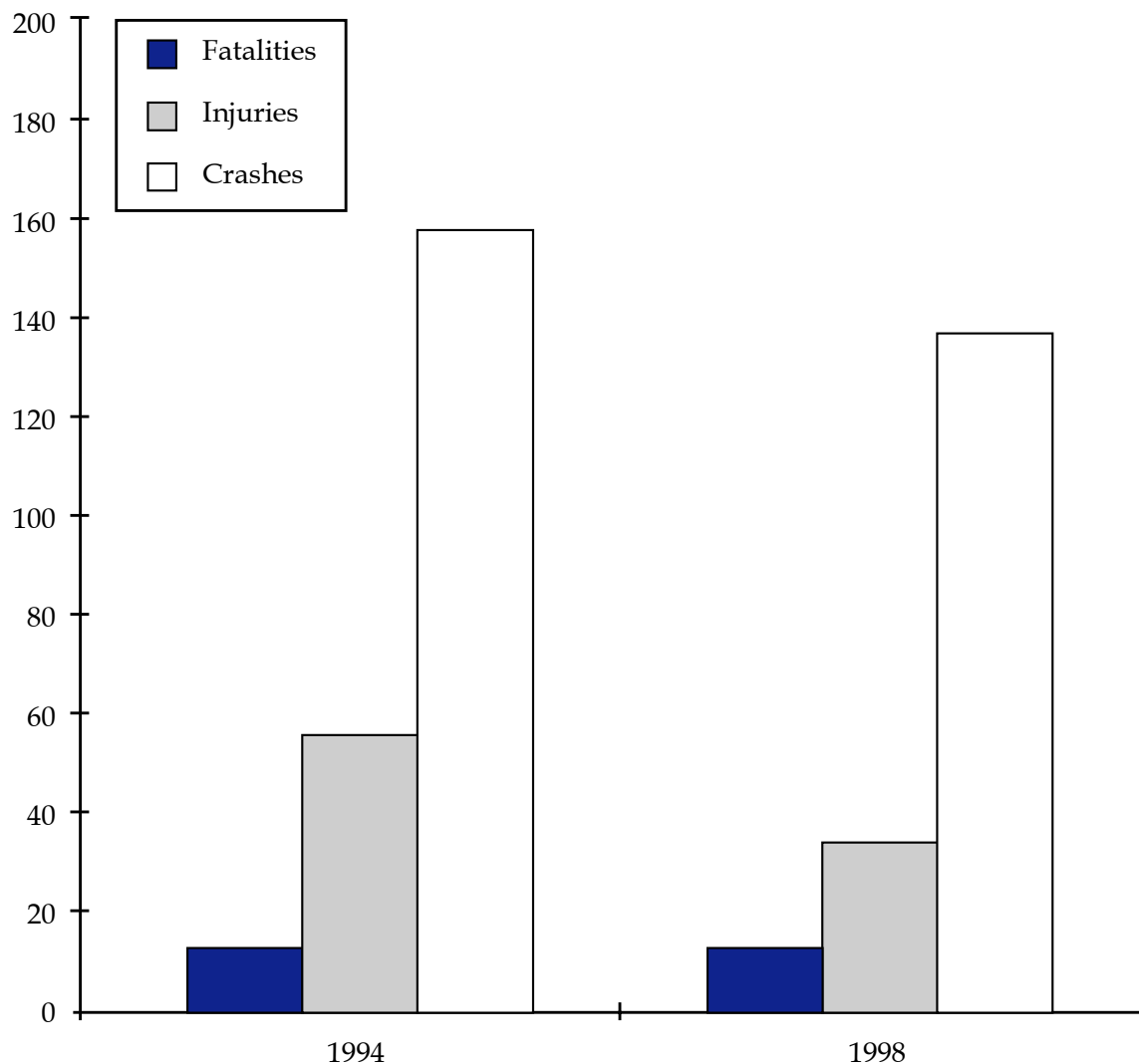
Table 2.9 Large Truck Crashes

	1995	1995 (% of All Crashes)	1998	1998 (% of All Crashes)
Crashes	11,545	2.1%	11,438	2.1%
Injuries	3,052	1.9%	3,355	2.0%
Fatalities	148	6.8%	138	6.1%

The comparison shows that while the total number of large truck crashes and fatalities have decreased from 1995 to 1998, the number of persons injured in large truck crashes has increased. The comparison also shows that while the percentage of large truck crashes and injuries is generally less than the percentage of truck volumes on the various road classes (estimated to range from a low of 2.0 percent on Urban Minor Arterials to a high of 21.8 percent on Rural Interstates), there are proportionally more than three times more fatalities in truck crashes compared to all other types of crashes (6.1%/2.1%).

An analysis of crashes at railroad/highway crossings was undertaken. The results of that comparison are shown in Figure 2.5.

Figure 2.5 Highway Rail Crashes

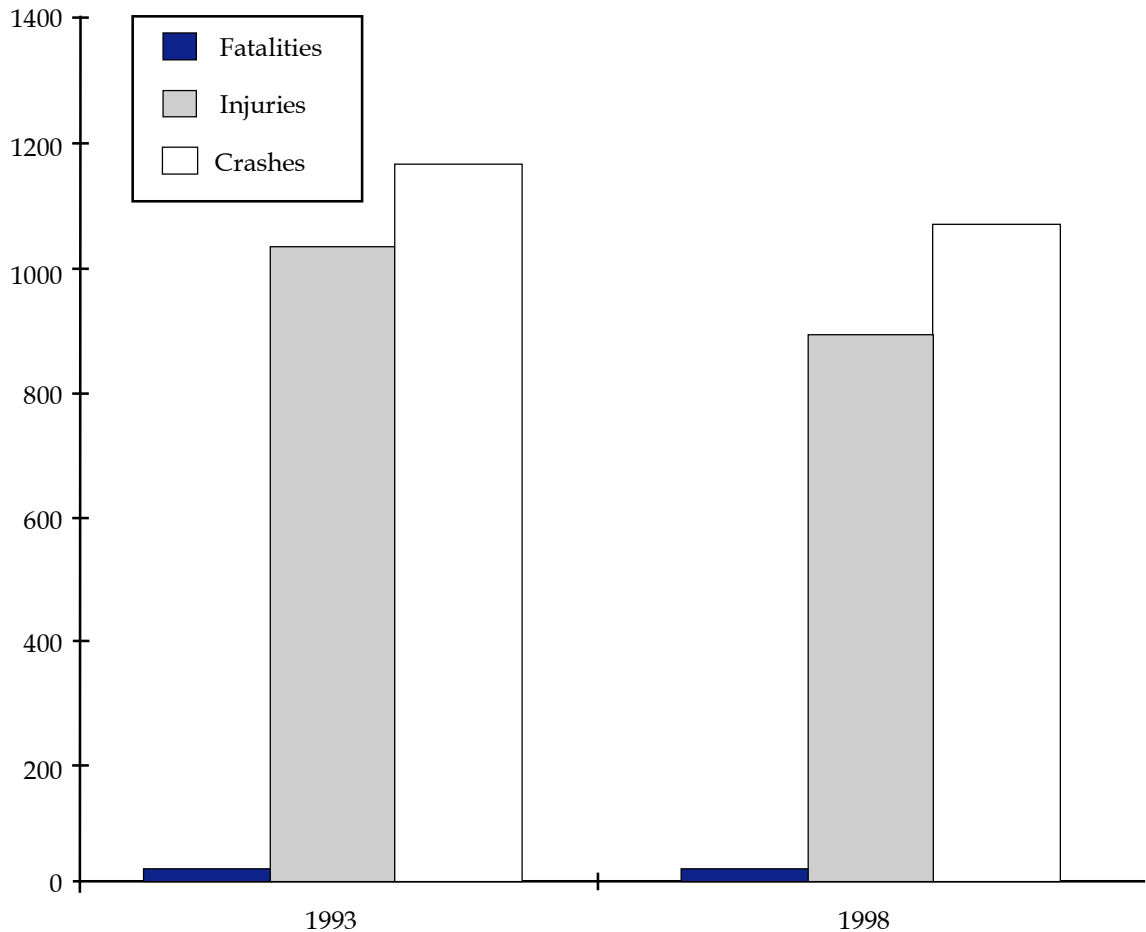


The total number of rail/highway crashes decreased from 161 in 1994 to 140 in 1998, a 13 percent decrease. The total number of injuries in rail/highway crashes decreased from 68 in 1994 to 35 in 1998, a 39 percent decrease. The number of fatalities remained constant at 13. An investigation of the most recent report by the Federal Railroad Administration (FRA)⁵, provides the additional information that of the 135 crashes in 1996, all but two crashes were at crossings already protected by gates, flashing lights, cross-bucks, stop signs or some other safety device.

⁵ Highway-Rail Crossing Accident/Incident And Inventory Bulletin: Calendar Year 1996, U.S. Department of Transportation, Federal Railroad Administration, August 1997.

The total number of bicycle crashes has decreased since the adoption of the 1995 SWTP. 1993 bicycle crash data is used as the base year since the 1994 data is incomplete. The comparison of bicycle crashes is shown in Figure 2.6.

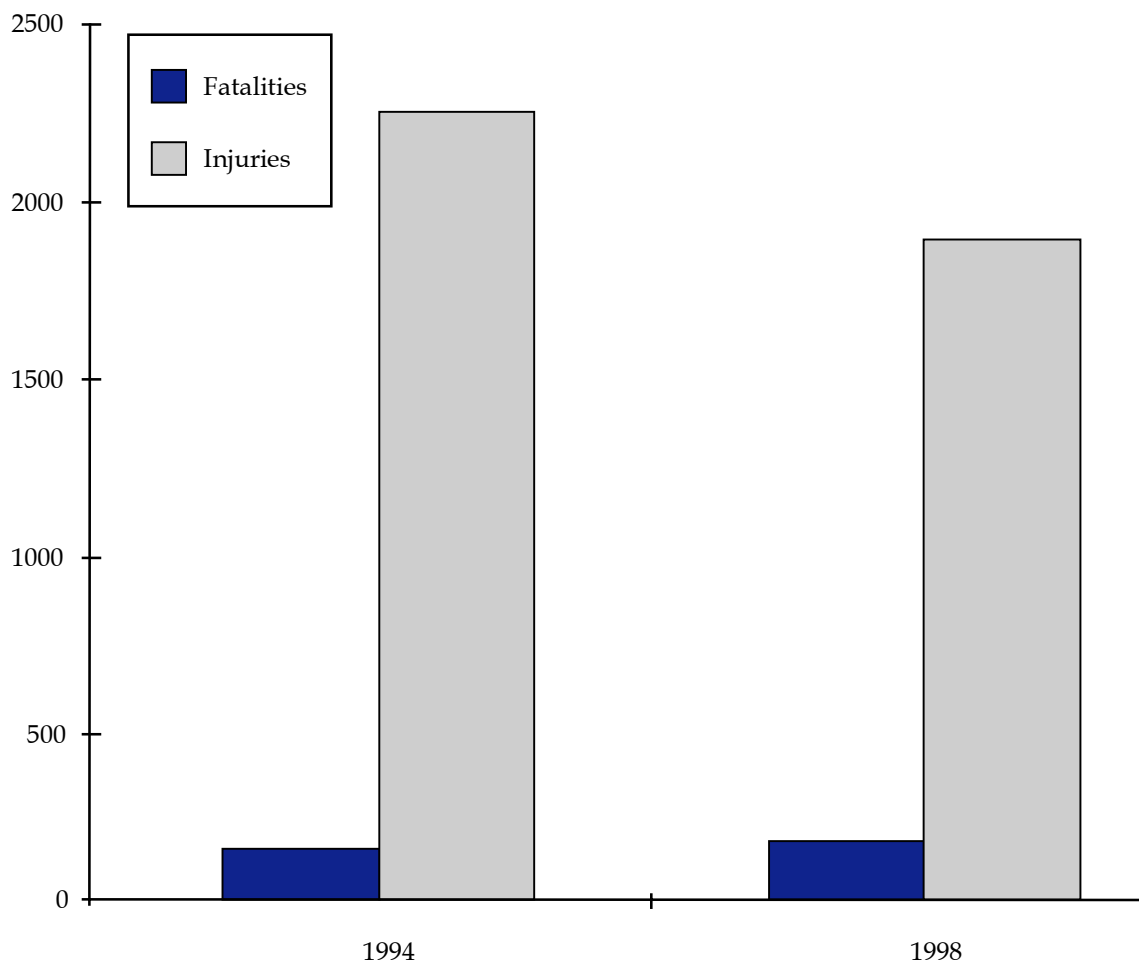
Figure 2.6 Highway Bicycle Crashes



The comparison shows that even during a period when both vehicular and bicycle traffic was increasing, the total number of bicycle/highway crashes decreased from 1,173 in 1993 to 1,077 in 1998, an 8 percent decrease. The total number of injuries in bike/highway crashes decreased from 1,038 in 1993 to 896 in 1998, a 13 percent decrease. The number of fatalities remained constant at 22.

The total number of pedestrian crashes has also decreased since the adoption of the 1995 SWTP. The comparison of pedestrian crashes is shown in Figure 2.7.

Figure 2.7 Highway Pedestrian Crashes



The comparison shows that even during a period when both vehicular and pedestrian traffic was increasing, the total number of injuries in pedestrian/highway crashes decreased from 2,284 in 1994 to 1,911 in 1998, a 16 percent decrease. The number of fatalities in pedestrian/highway crashes, however, increased from 151 in 1994 to 169 in 1998, a 12 percent increase.

Highway Congestion

Since the adoption of the SWTP, traffic volumes have increased by 16.7 percent while the miles of State Highway have increased by only 1.5 percent. Capacity could also be increased by means of road widening. A means of accounting for road widening is to calculate the number of lane-miles, which is the product of the number of lanes on a road by the length of the road. Lane-miles on the State Highway system increased by 3.7 percent from 44,551 in 1994 to 46,179 in 1998. Given the difference between the growth in traffic and the growth in highway infrastructure, an increase in congestion is not surprising.

As part of the HPMS, the state collects information that allows the calculation of the rated capacity, or Service Flow, for sample sections of road. Sufficient information is collected to allow for a determination of those roadways that are eligible for federal funding. For these roads the weighted average of Volume to Service Flow (V/SF) was calculated. This analysis shows that while, in general, the sampled roads in Georgia are not congested, there are some problem areas as shown in Table 2.10. The table shows that on average the volume to service flow ratio is less than 40 percent, which would indicate relatively uncongested conditions. The Urban Interstate sample road sections are the only class of roads where, on average, the V/SF is greater than 50 percent.

Table 2.10 Weighted Volume/Service Flow by Functional Classification

Rural Functional Classifications	Weighted Average V/SF	Urban Functional Classifications	Weighted Average V/SF
Rural Interstates	0.32	Urban Interstates	0.53
Rural Principal Arterials	0.19	Urban Freeways and Expressways	0.37
Rural Minor Arterials	0.15	Urban Other Principal Arterials	0.31
Rural Major Collectors	0.10	Urban Minor Arterials	0.33
Rural Minor Collectors	NA	Urban Collectors	0.36
Rural Local	NA	Urban Local	NA

A review was undertaken of Volume/ServiceFlow ratio by functional class for Environmental Justice (EJ) counties. As shown in Table 2.11, congestion, as defined by the weighted V/SF is lower on rural roadways in EJ counties compared to non-EJ counties, although the V/SF ratios are low for both groups of counties. In urban areas, the weighted V/SF ratio is higher in EJ counties for almost all functional classifications, and is particularly higher for Interstates and Other Expressways. Since Fulton County represents almost 12 percent of all VMT in Georgia, a review of EJ counties excluding Atlanta was also undertaken. Excluding Atlanta, the EJ counties still have greater congestion in urban areas, although the difference is not as pronounced.

Table 2.11 Weighted Volume/Service Flow by Functional Classification by EJ Counties

Functional Classifications	Weighted Average V/SF for non-EJ Counties	Weighted Average V/SF for EJ Counties	Weighted Average V/SF for EJ Counties (Excluding Fulton Co.)
Rural Interstates	0.36	0.22	0.20
Rural Principal Arterials	0.21	0.11	0.11
Rural Minor Arterials	0.16	0.12	0.12
Rural Major Collectors	0.12	0.03	0.03
Rural Minor Collectors	NA	NA	NA
Rural Local	NA	NA	NA
Urban Interstates	0.48	0.73	0.66
Urban Freeways and Expressways	0.26	0.58	0.47
Urban Other Principal Arterials	0.32	0.29	0.26
Urban Minor Arterials	0.32	0.34	0.30
Urban Collectors	0.32	0.45	0.46
Urban Local	NA	NA	NA

While the average V/SF ratios is useful in assessing congestion in general, it does not show the scope of the roadways that are experiencing congestion. In order to show the magnitude of this problem roadways were classified as congested if they had a V/SF greater than 0.7, which would correspond to a Level Of Service C in traffic engineering terms. The percentage of road miles that would be congested under this definition is show in Table 2.12.

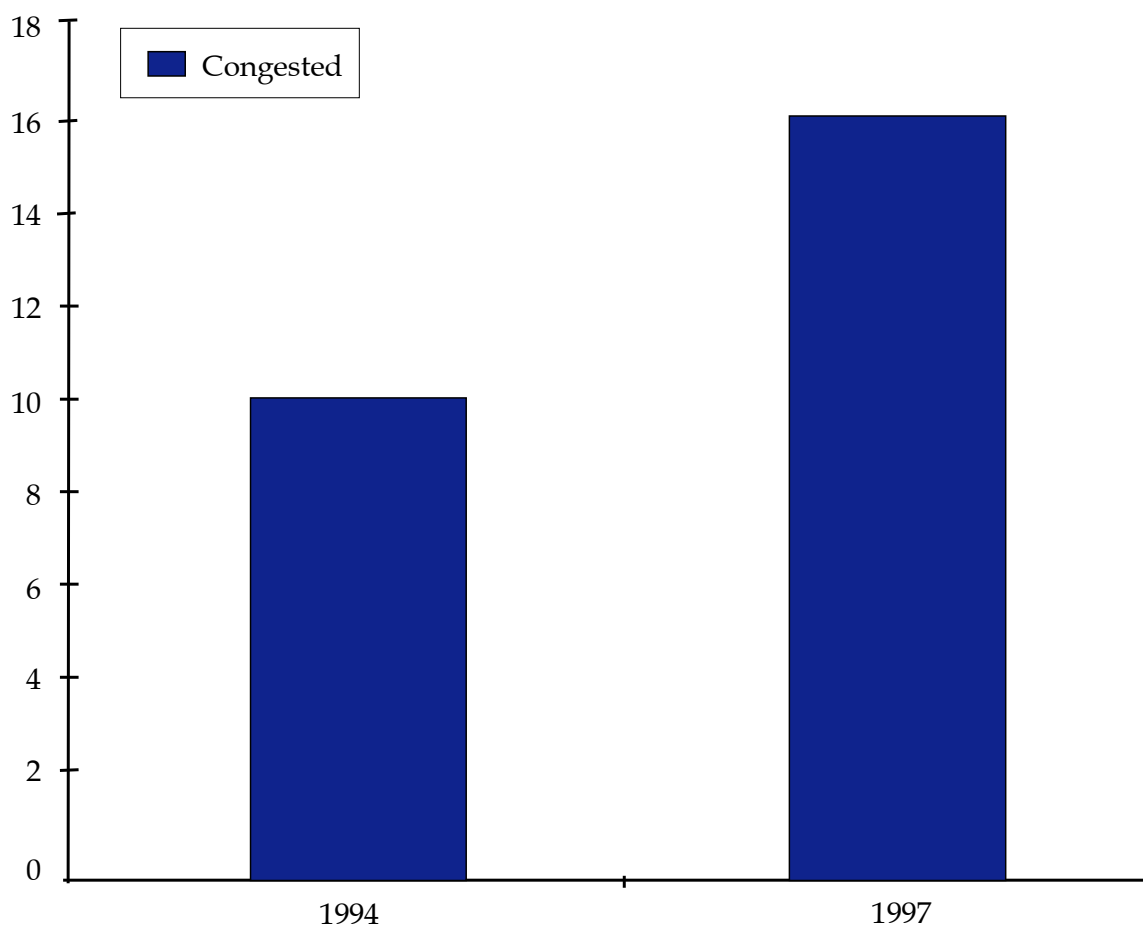
Table 2.12 Percentage of Congested Road Miles by Functional Classification

Rural Functional Classifications	Weighted Average, V/SF	Urban Functional Classifications	Weighted Average, V/SF
Rural Interstates	4%	Urban Interstates	13%
Rural Principal Arterials	2%	Urban Freeways and Expressways	13%
Rural Minor Arterials	0%	Urban Other Principal Arterials	9%
Rural Major Collectors	2%	Urban Minor Arterials	8%
Rural Minor Collectors	NA	Urban Collectors	15%
Rural Local	NA	Urban Local	NA

Table 2.12 shows that congestion is largely an urban problem. While few rural sampled sections show congestion, between eight to 15 percent of the urban arterials and collectors are congested.

In order to determine how congestion has been growing over time, a comparison was made of the percentage of congested urban arterials and collectors in 1994 and 1997 (1997 was used because of problems with comparing to the 1998 data). The results are shown in Figure 2.8.

Figure 2.8 Urban Congestion – Percentage of Congested Road Miles



Congestion is shown to have increased dramatically in urban areas between 1994 and 1997. This is largely due to the fact that much of the increase in travel has been in urban areas, on already congested roadways.

Since the above analysis was conducted on only the sampled sections with service flow rates calculated, an analysis was also conducted on all roads using a comparison of lane-miles to DVMT. The results of this analysis are shown in Table 2.13.

Table 2.13 DVMT per Lane-Mile by Functional Classification

Rural Functional Classifications	DVMT/ Lane-Mile	Urban Functional Classifications	DVMT/ Lane-Mile
Rural Interstates	7,668	Urban Interstates	15,292
Rural Principal Arterials	2,470	Urban Freeways and Expressways	9,542
Rural Minor Arterials	1,788	Urban Other Principal Arterials	5,258
Rural Major Collectors	714	Urban Minor Arterials	4,118
Rural Minor Collectors	433	Urban Collectors	2,901
Rural Local	141	Urban Local	671

While this comparison ignores the many different conditions affecting capacity such as traffic signals, stop signs on at-grade roadways and weaving sections on expressways, it does also show the urban nature of the congestion problem. Assuming an ideal flow rate of 2,000 vehicles per hour on expressways and 1,000 vehicles per hour on arterials and a peak-hour factor of 10 percent of daily traffic, the daily capacity of an expressway lane would be 20,000 vehicles and the daily capacity of an arterial lane would be 10,000 vehicles. On this basis, the traffic carried by Urban Interstates is at 75 percent of the daily capacity, a finding that is very similar to that on Table 2.10 from the sampled sections. It does provide the additional information, beyond that available from the HPMS V/SF ratios, that the traffic on Urban and Rural Local roads is only at six and two percent of capacity, respectively.

■ 2.4 Highway and Bridge Plans and Programs

In addition to the efforts of the Georgia DOT, transportation efforts in the 11 largest urban areas are guided by Metropolitan Planning Organizations (MPOs). MPOs exist in Albany, Athens, Atlanta, Augusta, Brunswick, Columbus, Macon, Rome, Savannah, Warner-Robbins, and the Georgia portion of the Chattanooga urban area. MPOs are responsible for transportation planning of federally funded projects and programs, as well as the preparation of three-year Transportation Improvement Programs (TIPs) and 25-year Regional Transportation Plans (RTPs). The MPOs operate independently from each other and develop RTPs and TIPs that address the unique needs and priorities of each area.

Regional Transportation Plans

A review was conducted of the MPOs long-range plans to determine the major commitments to improve the roadway and bridge system. A summary of revenues and expenditures for roadway and bridge projects in each MPO plan is presented in Table 2.14. Each MPO has its own schedule for updating and adopting the RTP. Therefore, the years covered by each RTP and the magnitude of revenues and expenditures are not directly

Table 2.14 Summary of Roadway and Bridge Expenditures in MPO Plans

Amounts (millions)	Albany	Athens	Atlanta	Augusta	Brunswick	Chattanooga	Columbus	Macon	Rome	Savannah	Warner Robins
Year of plan adoption	1994	1994, extended 1999	2000	1994, extended 1998	1997	Draft Released 5/18/00, last endorsed 1994	1999	1994	1994, extended 1999	1999	1996
Years covered by financial data	1995-2015	1995-2015	2000-2025	1995-2015	1995-2020	2000-2025 (Draft)	2000-2025	1995-2015	1995 to 2015	2000-2025	1994-2020
Revenue											
Federal formula and state match	\$85.0	\$171.0	\$5,158.0	\$293.0 ²	\$216.5 ²	\$138.7 ²	\$350.0	\$184.8	\$134.5 ⁷	\$621.4 ⁴	\$92.0
Federal and state discretionary	-	\$16.0	\$1,848.0	-	-	-	\$75.0	\$150.0	\$33.6 ⁸	-	\$37.6
Local general funds	\$135.0	\$16.0	\$2,727.0	-	-	-	\$75.0	\$146.0	\$30.0	\$270.0 ⁵	\$26.8
Local sales taxes	-	-	\$1,096.0	-	\$30.0	-	-	\$131.8	-	-	\$17.0 ⁶
Total	\$224.0	\$202.7	\$10,829.0	\$293.0	\$246.5	\$138.7	\$500.0	\$616.6	\$198.1	\$891.4	\$173.4
Expenditures											
Maintenance	\$65.4	\$18.0	\$4,700.0	\$13.0	\$21.3	\$0	\$85.0 ³	\$168.2	\$21.0	-	\$34.0
Short-range capital	-	-	-	-	-	-	-	\$318.4	\$90.0	\$209.8	\$51.3
Long-range capital	\$95.6 ¹	\$169.0 ¹	\$6,100.0 ¹	\$278.0 ¹	\$218.4 ¹	\$137.0 ¹	\$386.7 ¹	\$50.5	\$174.3	\$651.9	\$85.3
Other	\$13.9	\$16.0	\$100.0	\$2.0	\$6.8	\$1.7	\$16.0	-	2.8	\$35.5	-
Uncommitted	\$49.1	-	\$0	-	-	-	\$12.3	\$79.5	-	-	\$2.8
Total	\$224.0	\$203.0	\$10,800.0	\$293.0	\$246.5	\$138.7	\$500.0	\$616.6	\$198.1	\$897.2	\$173.4

¹ Short-range and long-range expenses were not separately identified in plan.

² Federal, state and local general funds were not separately identified in plan.

³ Category includes Federal maintenance and safety funds.

⁴ Formula and discretionary funds were included, but not separately identified in plan.

⁵ Local general and sales tax funds were included, but not separately identified in plan.

⁶ Local tax source is planned and not currently in place.

comparable. An overview of plans in each MPO, including major planned projects, is presented below.

Atlanta – On June 28, 1995 the Atlanta Regional Commission (ARC) adopted the last regional transportation plan (RTP) and transportation improvements program (TIP) that conformed to a specific mobile source emissions budget. Since the adoption of the 2010 RTP and the 1996-2001 TIP, the ARC has not completed a RTP and TIP that conformed to the mobile source emission budget. This is largely due to several travel model and socioeconomic data revisions that were not reflected in the State Implementation Plan (SIP) mobile source emissions budget.

In light of the inability to adopt a new conforming RTP, ARC amended the 1995 TIP in September 1996 and again in June 1997. The amendments were limited to projects that are defined as “Exempt” from an air quality conformity determination. Exempt projects are considered to have a neutral or beneficial impact on mobile source emissions and include roadway safety projects, minor transit improvements and travel demand management strategies.

On January 17, 1998 the 1995 TIP expired and the conformity determination for the 2010 RTP lapsed. ARC developed and adopted an interim TIP that only included Exempt and SIP designated transportation control measure (TCM) projects. The 2010 RTP expired on August 7, 1998, which required the ARC to develop and adopt an interim RTP that also only included Exempt and SIP designated TCM projects.

The inability of the ARC to formally develop and adopt a conforming RTP and TIP has required GDOT to shift the overall focus of the infrastructure program to include only Exempt and SIP TCM projects. As a result of this refocusing the Atlanta metropolitan area has experienced a significant reduction in both transit and roadway improvements. Essentially, the GDOT program has been limited to safety projects, a limited set of SIP TCM type projects, bicycle, and pedestrian system investments.

On March 22, 2000 the ARC Board approved a new conforming 2025 RTP and FY 2001-2003 TIP that, upon federal approval, should allow GDOT to re-engage in a comprehensive multimodal work program. The 2025 RTP and the 2001-2003 TIP represent a dramatic shift in transportation investments, with a significant amount of financial resources allocated to regional transit and HOV initiatives.

The RTP includes approximately \$200 billion in new transit facilities that accounts for 55 percent of the total RTP funding pool. The TIP includes \$1.9 billion in project funds and allocates approximately 40 percent to regional transit initiatives. The transit investment includes \$178 million for a regional and intercity commuter rail system. GDOT is flexing National Highway System funds to cover the cost of the commuter rail start-up system

The new direction of both the 2025 RTP and 2001-2003 TIP clearly challenges GDOT to continue to provide a safe and efficient roadway system while flexing federal transportation funds traditional used for roadway system improvements to cover the transit system start-up. The TIP also reflects a broader project base that GDOT must grapple with including the commuter rail system, several air quality and TDM related programs, the initial planning for a significant expansion of the region’s HOV system and

the planning for additional multimodal travel options in the northern portion of the Atlanta metropolitan area.

The long view that is established in the 2025 RTP represents a turning point in transportation infrastructure investment in the Atlanta metropolitan area. The financial plan for the 2025 RTP requires approximately \$2.6 billion in federal highway funds to be flexed to cover the regional transit capital cost. The 2025 RTP financial plan does not specifically address the 65 percent gap in transit operating cost and assumes that the Georgia Regional Transportation Authority will address the cost to operate the planned transit system.

Albany – The 2015 RTP was adopted by the Dougherty Area Regional Transportation Study (DARTS) in November 1994. The roadway and bridge element of the RTP was guided by three policies: 1) address existing capacity, safety, and condition deficiencies; 2) accommodate population and employment growth with system investments; and 3) address planning factors in federal regulations. The RTP includes \$224 million for roadway and bridge maintenance and construction projects between 1995 and 2015. It includes 44 different projects and lump-sum set-asides for enhancements and Transportation System Management (TSM) projects. The major projects in the DARTS RTP include:

- Short-range element (1995 to 2000)
 - SR 91 widening – \$5.9 million.
 - Liberty Expressway interchange grade separation – \$4.4 million.
- Long-range element (2001 to 2015)
 - Construction of new Southern Bypass – \$14.0 million.
 - Riverside Drive extension – \$8.5 million.
 - Construction of new connector between Fleming Road and Williamsburg Road – \$7.5 million.
 - Philema Road widening – \$7.5 million.

Athens – The RTP for the Athens-Clarke Oconee Transportation Study, the MPO for the Athens area, includes a \$203 million budget for the highway and bridge system. The RTP, which covered FY 1995 to FY 2015, included \$153 million in Federal-aid improvements, \$16 million for GRIP improvements, \$16 million for local road improvements and the balance for maintenance of the system. The roadway improvements are comprised primarily by road widenings and new construction. Major projects include:

- SR 316 construction of grade separated interchange – \$25 million (under construction).
- Construction of an East-West Connector from Atlanta Highway to SR 72 – \$21 million.
- Atlanta Highway from the Athens perimeter to U.S. 73 widening – \$5 million.

Augusta – The 2020 Extension to the 2015 RTP for the Augusta Regional Transportation Study includes a budget of \$277 million for the roadways in the Georgia portion of the

MPO. The roadway improvements consist primarily of widenings and extensions. Major projects include:

- I-20 widening and reconstruction – \$34 million.
- I-520 widening and reconstruction – \$16 million.
- Fifteenth Street constructing a rail overpass and widening – \$20 million.
- Gordon Highway (SR 10/U.S. 78) widening and reconstruction – \$6 million.
- Old Petersburg Road widening and reconstruction – \$12 million.
- Washington Road widening and reconstruction – \$8 million.
- Bobby Jones Freeway extension – \$16 million.

Brunswick – The 2020 RTP was adopted by the Brunswick Area Transportation Study (BATS) in October 1997. The RTP includes \$246.5 million for roadway and bridge maintenance and construction projects through 2020. It includes 76 different roadway and bridge projects and a lump-sum set-aside for enhancements. The RTP also suggests developing five “gateway” locations and 16 “focal point” intersections through public and private funding sources to improve tourism-related aesthetics. The major projects in the BATS RTP include:

- Interstate 95 widening, bridge replacement, and rest area upgrades – \$139.7 million.
- U.S. Route 17 widening – \$12.8 million.
- SR 25 (spur) widening and extension – \$10.1 million.
- SR 99 widening – \$7.2 million.
- Latham River bridge replacement – \$4.9 million.

Chattanooga – TransPlan25, the draft update to the Chattanooga MPO’s RTP covering the period through 2025 was released in May of 2000. It includes \$137 million of major roadway construction projects for the Georgia portion of the MPO. The RTP includes projects which are primarily road widenings and extensions. Major projects include:

- I-75 interchange reconstruction, addition of a collector/distributor system, and widening – \$27 million;
- I-24 widening – \$15 million;
- SR 146/Cloud Springs Road widening – \$10 million;
- CR 384/Dietz Highway widening – \$5 million;

Columbus – The 2025 RTP was adopted by the Columbus – Phenix City Transportation Study (CPCTS) in November 1999. The CPCTS undertakes transportation planning in both the Georgia and Alabama sections of this metropolitan area. The RTP includes \$500 million for roadway and bridge maintenance and construction projects for the Georgia portion of the MPO between 2000 and 2025. It includes 65 different roadway and bridge projects, and \$16 million for eight Intelligent Transportation System (ITS) projects. The RTP also lists a new Chattahoochee River crossing and an overpass on Buena Vista as

unfunded “illustrative” projects in Columbus. The major Georgia projects in the CPCTS RTP include:

- Interstate 185 widening, bridge reconstruction, ramp upgrades, and interchange reconstruction – \$79.9 million.
- Veterans Parkway widening (several locations) and overpass construction – \$64.5 million.
- Forrest Road widening – \$26.7 million.
- Macon Road widening and bridge replacement – \$20.8 million.
- Buena Vista widening – \$18.2 million.

Macon – The 2015 RTP was adopted by the Macon Area Transportation Study (MATS) in December 1994. The RTP includes \$616.6 million for roadway and bridge maintenance and construction projects between 1995 and 2015. It includes 74 different road and bridge projects. The major projects in the MATS RTP include:

- Fall Line Freeway/U.S. Route 80 construction – \$90 million.
- Construction of a new Cross County Connector north of Macon – \$24 million.
- Vineville Avenue widening – \$17.3 million.
- Forsyth/Poplar Connector construction and railroad bridge replacement – \$15.5 million.
- Houston Avenue reconstruction and sidewalk installation – \$13.5 million.
- Jeffersonville Road widening, sidewalk installation and intersection upgrades – \$13.5 million.

Rome – The Floyd-Rome Urban Transportation Study’s RTP for 2015 includes \$198 million of major roadway construction. The RTP projects are primarily road widenings and new construction. Major projects include:

- Rome bypass, construction (part of the Congressional high-priority corridor between Memphis and Atlanta – \$83 million.
- SR 01 widening – \$21 million.
- SR 140 widening – \$7 million.
- SR 101/U.S. 411/U.S. 27 interchange improvements \$14 million.

Savannah – The 2015 RTP was adopted by the Chatham Urban Transportation Study (CUTS) in December 1994 and revised in August 1997. CUTS is preparing a new RTP and has developed a project list and financial plan that covers the years between 2000 and 2025. According the 1997 RTP revision, the primary component is a limited-access perimeter road around Savannah to intercept cross-town commute travel. The 2025 project list includes \$891.4 million in federal, state, and local road funds. It includes 82 different road and bridge projects as well as \$25.9 million for five ITS projects. It also includes four bicycle and pedestrian projects, two enhancement projects, and \$35.5 million for four bus purchase projects and water ferry service. The 2025 project list also identifies

five unfunded “illustrative” projects that total an additional \$135.1 million. The major projects in the 2025 project list for the CUTS RTP include:

- Interstates 16 and 516 widening and reconstruction of 16/516 interchange – \$171.5 million.
- Abercorn Road widening, reconstruction, intersection improvement, and interchange construction – \$106.3 million.
- Truman Parkway construction (Phases III to V) – \$89.1 million.
- U.S. Route 80 widening – \$55.2 million.
- SR 21 widening – \$36.0 million.

Warner Robbins – The 2020 RTP was adopted by the Warner Robins Area Transportation Study (WRATS) in August 1996. The RTP includes \$173.4 million for 47 different roadway and bridge maintenance and construction projects. The major projects in the WRATS RTP include:

- Short-range element (1994 to 2002)
 - Houston Lake Road widening – \$17.4 million.
 - Russell Parkway extension and construction of new I-75 interchange – \$17.2 million.
- Long-range element (2003 to 2020)
 - SR 96 widening – \$13.8 million.
 - U.S. Route 41 widening – \$10.0 million.
 - Dunbar Road widening – \$6.5 million.

Regional Transportation Improvement Programs

Consistent with the GDOT object of providing a safe and well maintained transportation system; the State Transportation Improvement Program (STIP) continues to emphasize the maintenance and safety of the existing transportation facilities and public transit system. Given the vast economic diversity of the State, the GDOT STIP must balance the wide diversity of infrastructure needs. The allocation of STIP funds reflects a significant commitment to maintain a safe and efficient transportation system with over 34 percent of the STIP funds directed to reconstruction and rehabilitation of the transportation system.

The STIP provides general “work-type” descriptions that aid in identifying projects by a functional funding category. The GDOT FY 2000-2002 STIP applied the following set of definitions to each project included in the STIP.

1. *Reconstruction and Rehabilitation* – Includes reconstruction and/or rehabilitation of all system elements other than bridges.

2. *New Construction* – Includes new construction all new non-transit facilities and infrastructure. This work type category includes a wide array of projects including bicycle and pedestrian projects.
3. *Enhancements* – Includes projects defined under the Transportation Enhancement Activities (TEA) including multi-use facilities, transportation aesthetics, historic resources, and scenic preservation.
4. *Safety* – Refers to projects that address improving system safety on both the state and local transportation system.
5. *Bridge Replacement* – Addresses work to bridges throughout the Georgia – including construction and maintenance. This category can also refer to the construction of new bridges.
6. *Maintenance* – Refers to maintenance of the existing transportation system. Many maintenance items are also included in the reconstruction and rehabilitation work type classification.

The financial commitment across Georgia reflects variation in investment category that is consistent with the transportation needs and economic vision of the metropolitan and rural areas of Georgia. The following section summarizes the financial commitments included in the FY 2000-2002 STIP for each metropolitan planning agency (MPO) and for all other areas not included in the state's MPO structure. These areas represent the rural area of the Georgia. The STIP financial commitments reflected in each MPO summary are consistent with the MPO Regional Transportation Plan (RTP) and Transportation Improvement Program (TIP).

STIP Summaries

The Albany work program is dominated by significant reconstruction and rehabilitation work program element. As depicted in Table 2.15, well over 90 percent – approximately \$10 million – of the STIP is allocated to this category. The majority of the rehabilitation projects include roadway rehabilitation and lane widening.

The Athens MPO STIP program includes \$5 million in new construction cost to build a critical section of the Athens to Atlanta commuter rail line. GDOT is flexing National Highway System funds to cover the rail line start-up costs. However, the Athens STIP components are largely focused on the reconstruction and rehabilitation of the existing transportation system. The Athens MPO STIP elements include over \$19 million in reconstruction costs

The Atlanta MPO STIP funding elements represent the largest and most diverse range of work type elements in Georgia. While new construction accounts for over 40 percent of the STIP funding allocation, approximately \$122 million of the new construction cost is allocated to the commuter rail line start-up program. Other major projects include several interstate reconstruction projects, an I-75 gateway welcome center and significant investment in expanded ATMS.

The Augusta Regional MPO STIP funding program is largely allocated to the reconstruction and rehabilitation of the existing transportation system. The STIP includes a \$25 million interchange reconstruction project and several roadway reconstruction and widening projects. The Augusta STIP funding also includes enhancement projects that account for over \$3.5 million of the funding allocation.

The Brunswick Regional MPO STIP funding program includes approximately \$9 million in bridge replacement funds and over \$28 million in reconstruction and rehabilitation costs. The STIP also includes over \$1 million in bicycle and pedestrian projects that are identified as enhancement projects.

The Chattanooga Regional MPO STIP is also dominated by reconstruction and rehabilitation type projects. Many of the reconstruction projects address improving the access to I-75 by reconstructing and widening arterials as they approach I-75. The STIP also includes over \$6 million in bridge rehabilitation and improvement projects.

The Columbus Regional MPO STIP component is completely dominated by reconstruction and rehabilitation type projects. These projects include a wide array of system improvements including major interstate improvements and reconstruction and lane widening of several major arterials in the Columbus area. The reconstruction category accounts for over \$115 million or 97 percent of the STIP funding.

The Macon Regional MPO STIP funding allocation includes a significant reconstruction and rehabilitation component. Also most \$250 million is allocated to this category. The reconstruction classification includes two major interchange projects and several arterial improvement and widening projects. The new construction category includes several components to complete the extension of Eisenhower Parkway to SR 87. This single project, including an interchange with I-16, accounts for well over one-third of the new construction STIP funds.

The Rome Regional MPO STIP commitments include a significant allocation to the new construction category. Accounting for over 75 percent of the STIP funding, the new construction category includes the construction of a western bypass of Rome. The bypass construction also includes bridge construction over the Coosa River.

The Savannah Regional MPO STIP funding includes significant allocation to both the reconstruction and new construction categories. The Savannah STIP component includes the creation of the Harry S. Truman Parkway that will serve as an additional western arterial from DeRenne Road to Whitfield Road. This project accounts for almost two-thirds of the entire new construction category. The STIP also includes reconstruction and lane widening on several key state routes including SR 26 and SR 25.

The Warner Robins Regional MPO STIP funding is allocated largely between the new construction and the reconstruction and rehabilitation funding categories. The STIP includes the extension of the Richard Russell Parkway that accounts for the majority of new construction funds. The STIP also include reconstruction and rehabilitation of several key arterials in the region.

Table 2.15 STIP Funding by Category

Work Type	Albany	Athens	Atlanta	Augusta	Brunswick	Chattanooga	Columbus	Macon	Rome	Savannah	Warner Robins	Non-MPO
Reconstruction	94%	81%	20%	70%	63%	73%	97%	75%	15%	67%	60%	82%
New Construction	1%	9%	42%	24%	12%	18%	0.4%	20%	76%	28%	32%	12%
Enhancement	2%	5%	4%	4%	3%	2%	2%	1%	1%	1%	0.4%	3%
Safety	0%	1%	11%	2%	1%	0.4	0.3%	3%	4%	3%	0.9%	1%
Other	0%	0%	11%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bridge Replacement	3%	3%	5%	0%	21%	7%	0%	1%	4%	0.3%	7%	0.2%
Capital	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Planning	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Maintenance	0%	0%	1%	0%	0%	0%	0%	0%	0%	1%	0%	1%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

For all areas outside the MPOs in Georgia a significant proportion of the funding is allocated to the reconstruction and maintenance of the existing transportation system. The reconstruction category accounts for over \$219 million or 82 percent of STIP allocations. New construction accounts for approximately \$32 million or 12 percent of the STIP allocation.

3.0 Public Transit

Public transportation systems provide service for hundreds of millions of trips each year in Georgia. These systems include fixed-route bus and rail systems in urban areas, demand-responsive services in rural areas, intercity bus routes, and specialized services provided through human service agencies throughout the state. While the systems provide a vital link for many citizens that do not have access to automobiles, they are being increasingly used by individuals that have automobiles but select some form of public transportation for a variety of reasons.

In the larger urban areas, public transportation is a critical component in reducing air pollution and congestion on the existing transportation system. For these areas, a variety of transit support mechanisms are used to inform travelers of transit options, and to provide monetary, time and administrative incentives that encourage public transportation travel. This section provides a profile of current and planned public transportation services that are available to citizens throughout Georgia. The profile includes detail on these support programs that are being successfully used to expand transit ridership.

■ 3.1 Urban Public Transit Programs

Existing Programs

As in 1995, Georgia continues to have 10 urban public transportation systems in operation, including Albany, Athens, Atlanta (Cobb County, Douglas County and MARTA), Augusta, Columbus, Macon, and Savannah. These operators provide a range of services that primarily focus around a fixed-route bus system and complementary paratransit service for individuals with mobility limitations. Douglas County operates a demand-responsive vanpool service rather than fixed-route services. MARTA operates a heavy rail system in addition to its bus and paratransit services.

Table 3.1 provides a summary of key system characteristics and operating data for Fiscal Year (FY) 1999. As shown in the table, the MARTA, Savannah, and Cobb County transit systems are the largest in Georgia in terms of revenue, expenses, fleet size, and systemwide usage. Table 3.2 shows changes in urban transit service provision, usage, and fleet size since the 1995 Statewide Transportation Plan. In general, service provision and usage has grown for MARTA; however, usage has declined outside of the MARTA service area.

Table 3.1 System Characteristics for Urban Transit Operators (FY 1999)

	MARTA*	Cobb County	Douglas County	Albany	Athens	Augusta	Savannah	Macon	Columbus	Rome
<i>General Service Characteristics</i>										
Fixed-route local bus	✓	✓		✓	✓	✓	✓	✓	✓	✓
Fixed-route express bus		✓								
Demand Responsive			✓							
Rapid rail	✓									
Paratransit	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Weekday service hours	4:30a-1:30a	5:00a-10:00p		5:00a-8:00p	6:00a-7:00p			5:40a-6:45p		
Saturday service hours	4:30a-1:30a	5:00a-10:00p		5:00a-8:00p	7:00a-7:00p			5:40a-6:45p		
Sunday service hours	4:30a-1:30a	None		None	None			None		
Operating revenue	\$ 87,461,288	\$2,079,790		\$ 326,095	\$ 789,841	\$ 632,795	\$2,840,355	\$ 931,099	\$ 838,493	\$ 496,518
Operating expense	\$266,496,874	\$6,969,372		\$1,910,758	\$2,375,035	\$2,236,717	\$7,843,639	\$2,481,364	\$3,035,555	\$1,463,880
<i>Fixed Route Bus Service</i>										
System route miles	2,007	536.4		83.3		130	245	133	180	328
Number of vehicles in fleet	704	53		12	23	31	61	32	30	32
Average age of fleet (years)	8.8	8.4		11	15.3	7.1	8.8	6.2	8.7	7.0
Number of alternative fuel buses	118	0		0	0	0	4	0	0	0
<i>Rapid Rail Service</i>										
System route miles	92	-	-	-	-	-	-	-	-	-
Number of vehicles in fleet	238	-	-	-	-	-	-	-	-	-
Average age of fleet (years)	15.8	-	-	-	-	-	-	-	-	-
<i>Paratransit Service</i>										
Number of vehicles in fleet	76	15		6	7		16		6	2
Average age of fleet (years)	4.2	4		3.5	2.3		2.25			7
<i>Systemwide Statistics</i>										
Total passenger trips	163,831,000	2,603,285		620,626	1,038,665	1,286,334	3,691,263	1,161,113	831,227	741,651
Revenue hours	2,535,062	113,050		46,197	39,748	57,527	175,622	43,137	75,883	30,816
Revenue miles	56,955,000	1,782,420		649,062	607,674	709,112	2,403,458	809,113	1,049,561	479,208

* MARTA's "Total Passenger Trips" and "Revenue Miles" are for FY 1999; all other MARTA statistics are for FY 1998.

Table 3.2 Growth in Urban Public Transportation Service

Urban Systems		1994	1999	Percent Growth
Revenue Vehicle Miles (000)	MARTA	47,939	56,955	19%
	Non-MARTA	8,014	8,490	6%
Revenue Vehicle Hours (000)	MARTA	3,069	2,535	-17%
	Non-MARTA	563	582	3%
Annual Trips (000)	MARTA	143,025	163,831	15%
	Non-MARTA	14,029	11,974	-15%
Fleet Size	MARTA	931	942	1%
	Non-MARTA	280	274	-2%
Number of Alternative Fuel Buses	MARTA	0	118	-
	Non-MARTA	0	4	-

The average fleet age is over six years for all of Georgia's urban transit operators, and in the case of Athens the average fleet age is over 16 years. GDOT and local transit operators recognize that bus replacements are behind schedule, particularly in the smaller urban areas of Georgia. In general federal capital funds have not been sufficient to meet needs. In FY 2000, Georgia was successful in receiving a statewide earmark for Federal Transit Administration (FTA) discretionary capital funds for bus purchase; this earmark was used to purchase vehicles in urban areas outside of Atlanta. An aggressive fleet replacement program is planned for these smaller areas over the next five years. MARTA has also had success in the last several years receiving discretionary FTA capital funds for bus purchase and rail construction.

In addition to these public operators, the University of Georgia (Athens) and Georgia Tech (Atlanta) operate on-campus bus systems for students, faculty, and staff that are funded through student fees. These systems interface with the public transportation operators in the respective communities. The University of Georgia campus transit system provides nearly nine million annual passenger trips, which is the largest for any on-campus transit system in the United States.

As indicated in Table 3.2, urban transit providers outside of Atlanta have experienced steady to slightly declining ridership throughout the 1990s. These operators indicate that their customers tend to be transit captive individuals who use the service predominately for work-related and personal business trips. The demographic characteristics of these riders tend to be young, low-income, minority, and female. Rising economic prosperity, declining real fuel prices, and relatively stable transit services would tend to result in declining ridership among transit dependent individuals.

The changes in service provided and ridership has not been uniform among all urban transit systems. As shown in Figure 3.1, the while there was a slight increase in Non-MARTA systems, service provided ranged from increases of 29 percent in Albany and eight percent in Chatham County to decreases of 21 percent in Augusta and four percent

in Athens. The other urban transit systems remained within two percent of the service prior to the 1995 Statewide Transportation Plan. The 15 percent reduction in transit riders on Non-MARTA systems is also not uniformly distributed. As shown in Figure 3.2, ridership decreased by 41 percent in Columbus, 23 percent in Cobb County, 21 percent in Athens, and between 14 and 16 percent for Chatham, Albany and Augusta. Transit ridership actually increased by four percent in Macon and by two percent in Rome.

Figure 3.1 Annual Urban Revenue Miles of Service (Excluding MARTA)

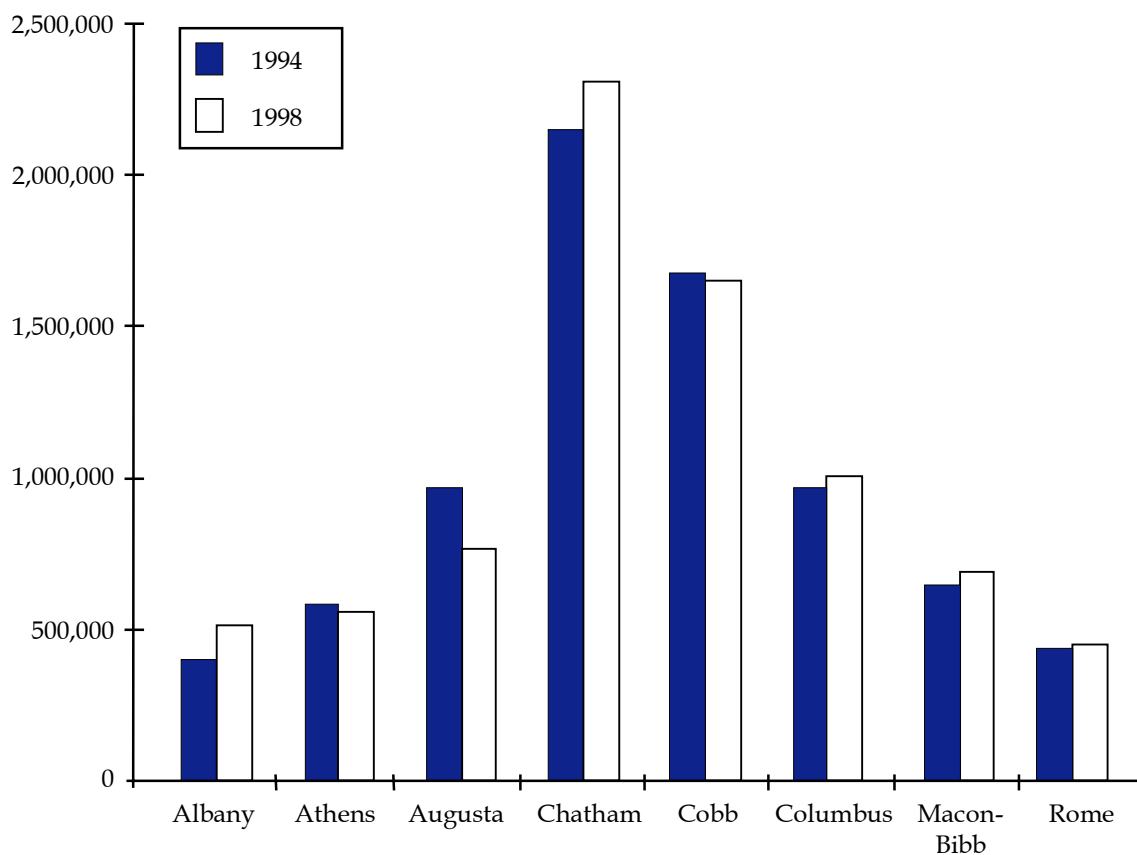
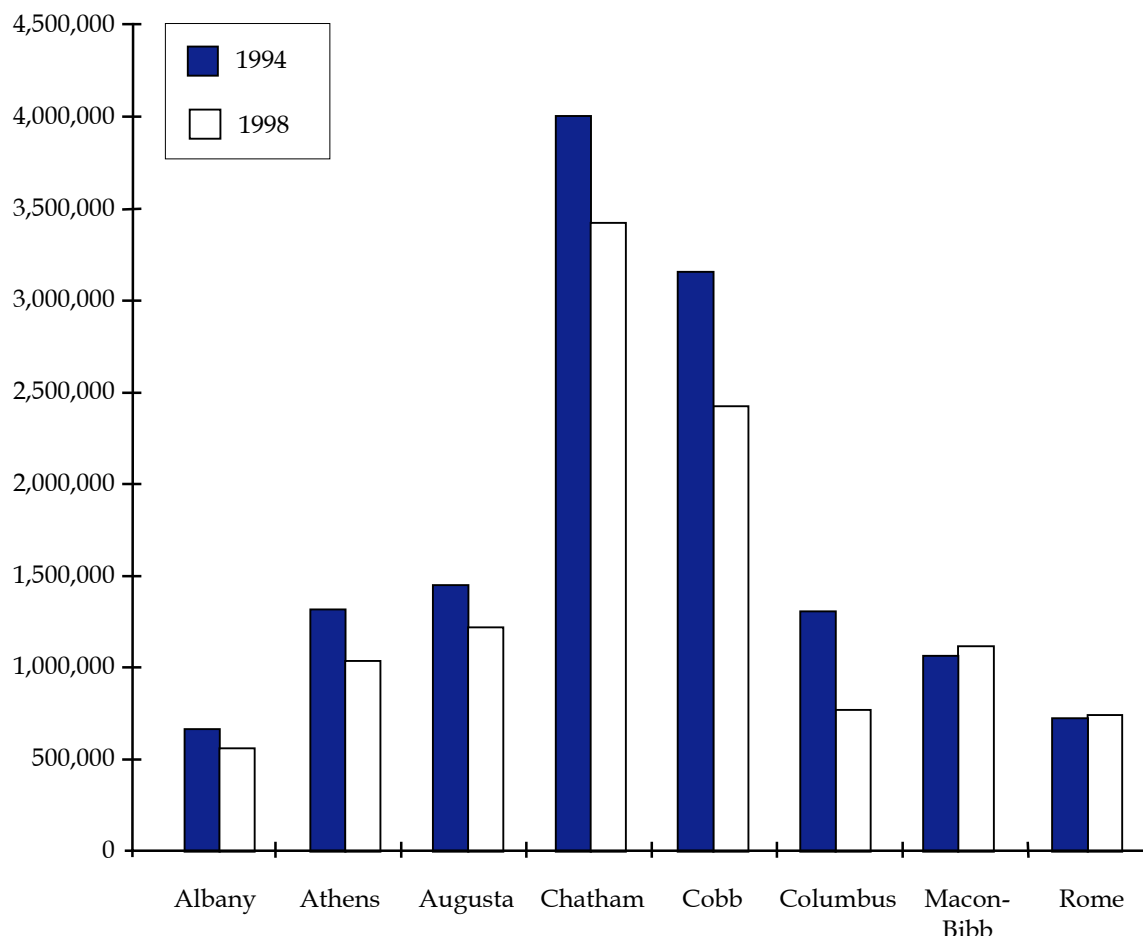


Figure 3.2 Annual Urban Transit Riders (Excluding MARTA)



The route structure in these smaller urban areas has been relatively constant over this time, creating problems in serving new employment areas that continue to grow at the fringes of (or outside) their service area. Athens completed a *Study on Barriers to Job Access* in 1998 that identified lack of transit service to these suburban job centers as a major impediment to successfully moving individuals from welfare to work. This study also pointed to extended service hours, service coordination between jurisdictions, and more frequent service to facilitate trip chaining (e.g., a trip from home to work that includes a stop at a child care center) as major needs in improving job access for the transit dependent.

In the Atlanta region, “transit captive” individuals tend to account for a lower proportion of ridership. Both Cobb Community Transit (CCT) and MARTA report that express bus and rail services tend to have a large number of higher-income individuals that select transit for their work commute trip. In fact, MARTA estimates that over 50 percent of its riders choose transit over other travel modes. CCT and MARTA report that work trips typically account for 60 percent to 65 percent of total ridership. While many transit riders are from lower-income households, a recent demographic profile of MARTA riders shows that the median household income has risen from \$22,000 in 1995 to \$27,000 in 1999. The

MARTA profile indicates that 75 percent of total ridership is minority, and there is roughly an even split between male and female riders.

Planned Changes

Although no statewide strategic transit plan is in place to guide transit service development, a variety of changes, including both capital and operating strategies, are contemplated for urban transit systems in Georgia over the next 25 years. The most dramatic changes relate to planned expansion in the metro Atlanta area, especially near-term initiation of transit service in Gwinnett and Clayton Counties.

The recently adopted Regional Transportation Plan (RTP) for the Atlanta area commits over \$20 billion in federal, state and local funding (55 percent of the total RTP funds) to expanding and operating the regional transit system. The plan commits \$11.1 billion to rail systems, \$6.7 billion to regional bus services, \$1.7 billion for system rehabilitation, and \$0.5 billion for transit support activities. An additional \$3.6 billion is committed for the regional high-occupancy vehicle (HOV) system, which will be an important component for regional express bus service.

In Gwinnett County, express bus service to Atlanta is expected to begin on three routes in 2001. This is projected to be followed during the next few years by addition of seven local routes and one express route. Gwinnett expects to operate its local system with 30- to 60-minute headways between 6:00 a.m. and 9:00 p.m. Monday through Saturday. Express service will be provided during weekday commute times, and will operate from three proposed and several existing park and ride lots. A total of 38 buses are expected for local service, 22 buses for express, and 14 buses for local paratransit service. The Atlanta Regional Commission (ARC) RTP also includes funding for a future bus circulator system in the Gwinnett Place Mall area of the County.

In Clayton County, discussions are still ongoing between the County and the Georgia Regional Transportation Authority (GRTA) regarding establishing local and express service for the County. An advisory referendum is planned during summer 2000 to gauge citizen support for the proposal. If approved by the voters, service could begin in 2001 if a local funding source is identified. The ARC RTP also identified funding for new bus systems in Cherokee, Douglas, Fayette, Henry, and Rockdale Counties. Further planning activities will help determine the characteristics of these other systems, although they are expected to combine express, local and rail feeder services.

The following information highlights system changes for existing operators that are known and committed to at this time. Major project commitments, such as service expansion and fleet replacement, were drawn from the RTP developed by the MPO in each urban area. Discussions with MPO and transit agency staff were used to supplement the RTP information for those MPOs where a new RTP is currently in development. Smaller service changes were drawn from transit agency plans and discussions with agency staff; generally, these smaller changes do not go through the MPO planning process.

Albany – The Albany Transit System (ATS) undertook a route and schedule analysis and a Master Facilities and Operational Study in 1993. These plans recommended a replacement schedule for the entire bus fleet; this replacement program began in 2000. ATS has used discretionary funding and lease-purchase arrangements to initiate the bus replacement since normal funding for capital purchases has not been sufficient. By 2002, ATS predicts that most of its bus fleet will be less than five years old. The 2015 RTP for Albany estimates transit capital needs at \$4.1, and operating costs at \$20.4 million; a \$0.5 million shortfall in local operating funds was expected based on existing trends.

Athens – The RTP for Athens-Clarke County included a \$23 million capital budget and \$28 million local operating subsidy for transit. The RTP, which covered FY 1995 to FY 2015, projected a doubling of fleet size for the Athens Transit System. Athens Transit is purchasing two new buses this year with funding received through an FTA discretionary grant; replacement of at least four buses is needed for each of the next three years. Athens Transit is interested in expanding service hours and area to implement recommendations from a “barriers to job access” study; however, the MPO was unsuccessful in receiving a discretionary federal grant for this program and a permanent financing mechanism is not available locally.

Augusta – Augusta Regional Transit prepared short-range and long-range transit plans in 1999; the primary recommendation in these plans is a vehicle replacement schedule. The Augusta RTP includes a \$45 million lump sum for transit operating and capital subsidies between FY 1998 and FY 2015.

Cobb County – CCT is planning to convert its fleet to CNG over the next few years; this conversion will necessitate construction of a CNG fueling station in the County. CCT also plans to begin express bus service on two routes as a two-year “demonstration” project. CCT plans to initiate shuttle systems in two major employment centers using alternative fueled buses; this shuttle will also be funded as a two-year “demonstration.” These near-term proposals by CCT are projected to require about \$20.2 million in capital funds and \$9 million in operating funds. The ARC RTP includes longer-term funding for countywide expansion of CCT service. This expansion could be coupled with RTP plans to construct a light-rail line through Cobb County to the Arts Center MARTA station between 2010 and 2020. The RTP also indicates that one of the bus shuttle systems planned by CCT will be converted to a rail circulator around 2010.

Columbus – The Columbus-Phenix City RTP includes \$77 million for transit capital projects and \$113 million for local transit operating subsidy. Major projects identified in the RTP include a 35 percent service expansion, fleet replacement with alternative fuel vehicles, and an automatic vehicle location (AVL) system. Funding for four new park and ride lots is also included in the RTP.

Macon – The Macon/Bibb Transit Authority has recently completed purchase of 12 new coaches that were identified in the currently adopted RTP. The RTP included \$2 million from a special local option sales tax to fund this capital purchase. Seven of the 12 buses were acquired through lease-purchase arrangements. The transit authority plans to replace three buses annually for the next five years, and will begin fleet expansion after that time. The Authority is also planning several service changes and additions over the next few years including route expansion to the northwest, extended evening service

hours, initiation of Sunday service, and a headway reduction on most routes to between 20 and 25 minutes. The Authority is also in the process of applying for federal operating assistance; up until this time, transit operating subsidies in Macon were fully funded from local sources.

MARTA – MARTA will be opening a two-mile extension to its north rail line in late 2000; this extension will include two stations, 3,000 new parking spaces, and 100 additional rail cars. MARTA performs ongoing evaluation and realignment of its bus routes, and expects about a one percent annual increase in its fleet size and bus service provision. A recent business plan projects that MARTA could exhaust its operating reserve by FY 2001, although efforts continue to address this issue. The ARC RTP includes 23 miles in heavy rail extensions to MARTA's west, south and north lines and a realignment of bus services as these extensions open. The RTP also includes an undefined fixed guideway improvement to southwest Dekalb County; MARTA is exploring the feasibility of providing bus rapid transit to this area.

Rome – The Rome-Floyd County RTP includes \$2.9 million in federal transit capital assistance, \$12.9 million in local capital funding, and \$3.6 million in local operating subsidy between FY 1997 and FY 2015. No specific transit projects are identified in the RTP.

Savannah – Chatham Area Transit (CAT) is in the midst of a large bus replacement program that is scheduled to result in 53 bus purchases between 1998 and 2006. This program is funded in large part with \$34 million in "flexible" federal funds. CAT receives local operating and capital support from a 0.9 mil property tax within its districts; paratransit operations are funded through an additional 0.2 mil property tax. The Chatham transit district covers Savannah and unincorporated areas of Chatham County; discussions continue for expanding the district countywide. CAT purchased three electric buses in 1996 to provide shuttle service in the downtown area of Savannah.

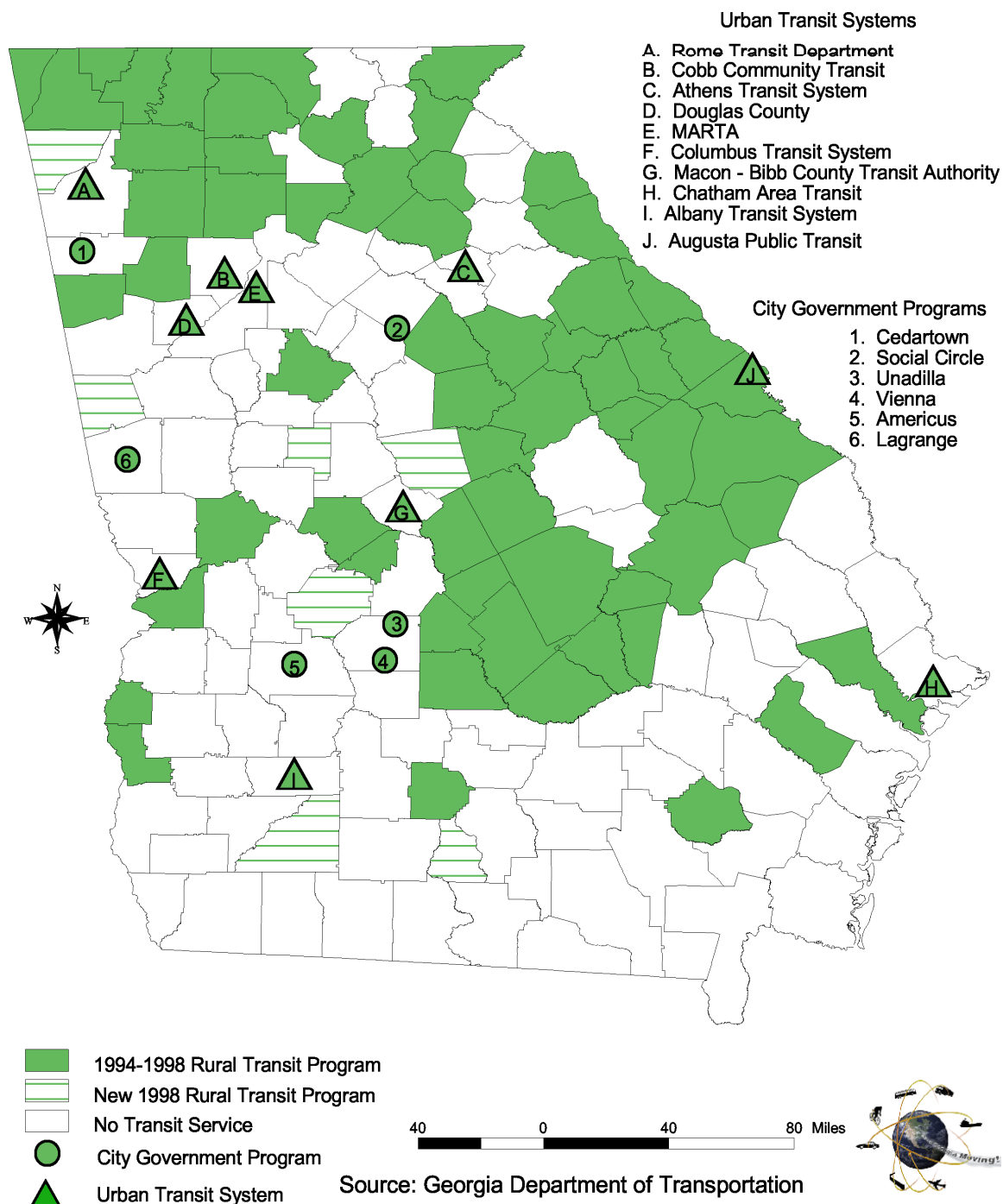
Other MPOs in Georgia without current transit service (Brunswick, Chattanooga, and Warner-Robins) continually evaluate the need for new transit service within their ongoing planning processes. Brunswick and Warner-Robins also performed detailed transit needs studies in the early 1990s. Based on these planning activities, none of these areas plan to initiate new public transit systems in the foreseeable future.

■ 3.2 Rural Public Transit Programs

Existing Programs

A majority of Georgia's non-urbanized counties offer public transit service to the general population. Rural transit operations in Georgia are demand-responsive services, and are generally available through subscription service and advance reservation. Figure 3.3 displays the counties that provided rural transit service during 1998.

Figure 3.3 Public Transportation Programs



Rural transit riders in Georgia tend to be low-income, elderly, and transit-dependent individuals. Most rural transit trips tend to be for personal business and medical reasons, with many operators indicating that they discourage work trips due to scheduling and resource constraints. However, some operators are actively pursuing “purchase of service” agreements with local employers to provide subscription commute trips within

the transit service area. Several of Georgia's rural public transit operators also provide "human resource" transit services under contract with the Georgia Department of Human Resources; this coordinated service is discussed in the next section.

Rural transit services are generally funded by federal and local funds for operating costs, and a mix of federal, state, and local funds for capital costs. Federal capital and operating funds are provided under the FTA Section 5311 program. The Section 5311 program provides assistance to non-urbanized areas. Hence, "rural" transit services can be operated in areas that are classified as either rural or urban, including many counties on the fringe of the metro Atlanta area.

Georgia's rural transit operations are managed under administrative guidelines developed by GDOT. In general, any non-urbanized area is eligible to receive operating and capital support for rural transit. Georgia's program is largely administered at the county level, although cities are allowed to operate and administer the service if no county-based program is available. Rural transit programs are also expected to meet minimum operating, utilization and cost recovery criteria, and have at least one lift-equipped vehicle in their fleet.

Appendix A provides service characteristics for rural transit services that were operated during calendar year 1999. Rural operations in Georgia cover a range of sizes, with several counties having a fleet size of 10 or greater. In general, the data in Appendix A indicate that Georgia's rural transit fleet is relatively new, with only 23 of the 278 total vehicles over five years in age. For 1999, median annual ridership was about 16,700, annual revenue vehicle-miles were about 66,000, and median fleet size was three vehicles. Table 3.3 shows changes in rural transit service provision, usage, and fleet size since the 1995 Statewide Transportation Plan. While the number of counties with service increased by 21 percent and the revenue miles of service offered increased by 43 percent, ridership increased by only two percent. This indicates that without the increase in counties and miles, ridership would have most likely declined since the adoption of the 1995 Statewide Transportation Plan.

Table 3.3 Growth in Rural Public Transportation Service

Rural Systems	1994	1999	Percent Growth
Number of Counties with Rural Service	68	82	21%
Revenue Vehicle Miles (000)	5,098	7,296	43%
Revenue Vehicle Hours (000)	N/A	486	–
Annual Trips (000)	1,769	1,800	2%
Fleet Size	232	278	20%

Potential Service Areas

GDOT's Multimodal Transportation Planning Tool (MTPT) includes an analysis component for rural transit service. Part of this analysis component assesses the demographic characteristics of counties that are being considered for rural transit service. According to the MTPT research reports, this assessment relates to service need and the number of people in different market segments for which a service is targeted. Based on an extensive review and outreach effort, the research report identified 10 population segments that typically comprise the vast majority of the Georgia rural transit market. The importance of the following population segments was verified during discussions with several rural transit operators during this project:

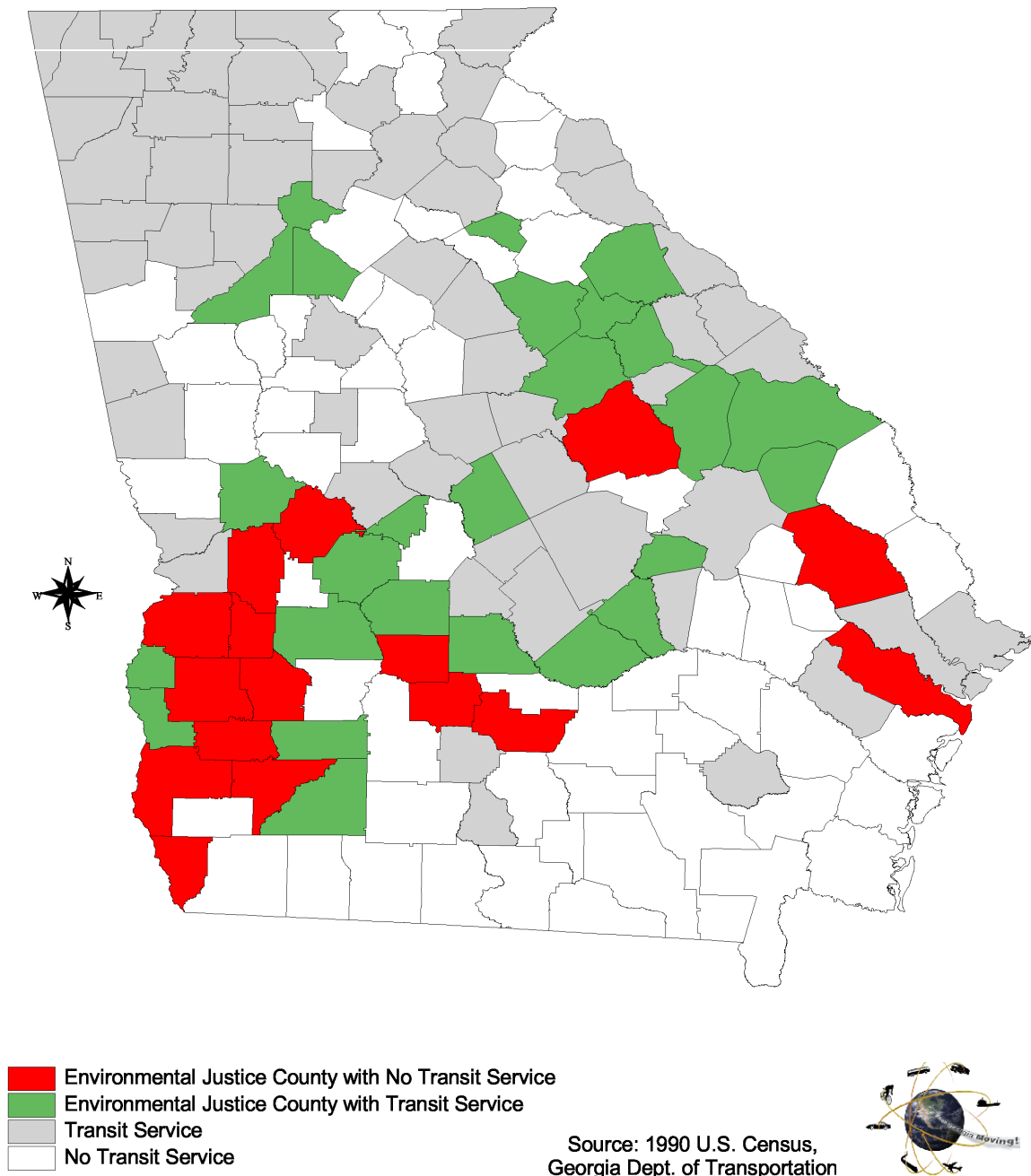
- Total persons aged 60 and over;
- Total persons living below poverty level;
- Persons aged 16 to 64 with mobility limitation;
- Total persons with mobility limitations;
- Employed persons with mobility limitations;
- Persons enrolled in grade school;
- Persons enrolled in high school;
- Total households with no vehicles;
- Persons using bus, walk or bicycle modes to work; and
- Persons using carpool to work.

Appendix B displays the percentage of 1990 total county population in each of these population segments for rural counties that do not currently have rural transit service. The county values within each category were compared to the statewide average for all Georgia counties with existing rural public transit service. Those values that exceed this statewide average in each category are displayed in bold font in the table. Background shading indicates those counties that exceed the statewide average on a majority of attributes.

As shown in Appendix B, all counties have at least one population segment that exceeds the statewide average. However, the 36 counties that are highlighted in Appendix B exceed the statewide average for a majority (six or more) of the population segments. These 36 counties, which are primarily in south Georgia, have population characteristics that are consistent with other counties that currently provide rural transit service.

The counties without service in south Georgia also are among those counties that have above average concentrations of Environmental Justice populations. As shown in Figure 3.4, urban or rural transit service is provided in 24 counties or 59 percent of the 41 counties that have a greater than average concentration of Environmental Justice populations compared to 58 or 49 percent of the 118 counties that have an average or less than average concentration. The concentration of the 17 Environmental Justice counties without transit service available is largely in south Georgia.

Figure 3.4 Transit Service and Environmental Justice



■ 3.3 Human Service Transit Programs

Georgia's transit program includes a parallel system of "human service" (HS) transportation providers that operate service for individuals that meet specific eligibility

criteria. Individuals may qualify for transit services under criteria established by the following five programs:

- **Division of Aging** – generally for individuals aged 60 and over;
- **Division of Mental Health/Mental Retardation/Substance Abuse** – generally for individuals that are receiving services under these programs;
- **Division of Family and Children Services** – generally for individuals making the transition from welfare to work;
- **Division of Rehabilitation Services** – generally for low-income, mobility-impaired individuals who are seeking employment; and
- **Division of Public Health** – generally for individuals seeking services under the Medicaid program.

DHR estimates that the first two programs account for about 75 percent of total HS ridership.

HS programs are generally funded through local, state, and federal sources, and are administered by the Georgia Department of Human Resources (DHR) and the Georgia Department of Community Health. Federal sources include social service block grants, Titles 3 and 20 funds for elderly individuals, and FTA Section 5310 funds; the FTA funds are for capital purposes only. DHR has been Georgia's designated recipient of FTA Section 5310 funds since 1988. State sources are provided through general fund appropriations, and can cover both operating and capital needs based on legislative direction. Local capital and operating assistance is also provided in some areas, particularly for the aging programs.

The HS programs currently operate a fleet of 3,600 vehicles, all of which are owned by the State. DHR has been having difficulty in assuring timely replacement of fleet vehicles. Due in part to this capital requirement and growing operating costs, DHR has been increasing efforts to coordinate HS transportation services among its many programs. DHR is implementing this coordination through third-party contracts with one or multiple service providers in each DHR region. Contracts are in-place in six of the 13 DHR regions; the other seven regions are expected to have contracts in-place within the next five years. Under these contracts, service providers will have use of the DHR fleet while useful life remains on the vehicles. The contractors will be responsible for vehicle replacement.

Based on experience to date, DHR expects that most third-party contracts will be with either government agencies or private, non-profit groups. Some of the rural public transit providers that receive GDOT and FTA Section 5311 funds are participating in this program as third-party contractors. These rural transit operators are encouraged by the "purchase of service" (POS) agreements that essentially reimburse them the full cost of providing a DHR trip. DHR received special permission from FTA to allow Section 5310 funds to be used for POS arrangements with Section 5311 providers.

■ 3.4 Transit Supportive Programs

Transit supportive programs include a range of activities, policies and strategies that are designed to improve the efficiency of the transportation system by encouraging alternatives to driving alone. Efficiency improvement can be achieved through greater use of transit, reliance on ridesharing or carpooling, or overall reductions in trip-making activities. Transit supportive activities can include physical facilities such as high-occupancy vehicle (HOV) lanes and park and ride lots, or strategies that fall under the general heading of travel demand management (TDM). Common TDM options include carpooling, vanpooling, ridematch services, parking management, transit subsidies, telecommuting, and others.

While these programs are described individually, they all interact in creating a suite of activities that encourage individuals to not drive alone. For example, travel time savings that arise from HOV lanes are an important marketing tool in encouraging ridesharing and carpooling. Similarly, readily available park and ride lots help encourage formation of carpools and vanpools along corridors that have HOV lanes.

Many of these programs, particularly those related to TDM are most prevalent in the Atlanta region. However, some programs, such as the park and ride lots, are currently implemented across the state.

High-Occupancy Vehicle Lanes

The metro Atlanta region is currently the only area in the state in which high-occupancy vehicle (HOV) lanes are in operation or are currently planned for future development. Within Atlanta, HOV lanes provide travel along major freeways exclusively for vehicles with two or more travelers. The current HOV system in Atlanta is about 78 miles in length, with several locations where travelers have exclusive entry and exit ramps from the freeway to adjacent surface streets. The HOV lanes along I-75 and I-85 are enforced at all times, while the HOV lanes along I-20 east are enforced during the peak commute hours. Currently, a 13.6-mile extension to the HOV system is under construction along I-85 in Dekalb and Gwinnett Counties.

At this time, only the Atlanta area has included additional HOV lanes within their metropolitan transportation plan. The ARC plan envisions a 220-mile expansion of the current HOV system by 2025. This expansion will add HOV lanes and HOV ramps to segments of all freeways in the Atlanta region, including the portion of I-285 north of I-20.

Park and Ride Lots

GDOT owns and monitors 88 park and ride lots spread throughout the state, about 20 of which are in the metro Atlanta area. These lots were built by GDOT on state-owned land. While GDOT is responsible for monitoring usage, physical conditions, and activities at the lots, a local jurisdiction is required to provide routine maintenance. Throughout 1999,

observed utilization at the lots averaged about 23 percent, which is slightly lower than the 26 percent utilization noted in the 1995 Statewide Transportation Plan. However, about 15 locations throughout the state are consistently utilized at about two-thirds of capacity or higher.

During 1999, GDOT opened new park and ride lots in Spalding and Rockdale counties. Two new lots are under development in Gwinnett and Dekalb counties in the Metro Atlanta region. The ARC RTP identified 12 additional locations in the metro Atlanta area where park-and-ride lots are planned for development by GDOT or a local jurisdiction. In general, these new lots are targeted along major travel corridors, especially at terminal locations for planned extensions to the HOV lanes. These locations will provide ready access to nearby population centers and can be served by the local and express transit services proposed in the ARC plan.

Some urban transit operators in Georgia also either operate or are planning to build park and ride lots. MARTA owns and operates park and ride lots in conjunction with most of its heavy rail stations outside of downtown Atlanta. Chatham Area Transit is in final planning for a transit center and park-ride lot near downtown Savannah. Athens Transit System is continuing its efforts to help secure funding for the Athens Multimodal Center that will include park and ride facilities. CCT is seeking funding for park and ride lots adjacent to the Marietta Transit Center and Kennesaw State University. Metro Vanpool, a private vanpool operator in the metro Atlanta area, also indicates that they have permission from some local merchants and churches to use these private parking areas as meeting places for their vanpools. These informal parking areas change frequently based on the riders using a particular vanpool.

It should be noted that ridesharing nationwide has experienced sharp declines since its peak during the energy crises of the 1970s. Economic prosperity, declining real fuel prices, and the changing nature of work in which fewer people work standard shifts or hours have all contributed to this decline.

Ridesharing

Ridesharing programs seek to provide information and coordination services to commuters and employers on TDM-type issues. These programs can provide or facilitate services such as ride-matching, guaranteed ride home, and carpool, vanpool or transit information and subsidies. As implemented in Georgia, rideshare activities are a major component of congestion reduction and air quality improvement programs.

Major ridesharing activities in Georgia are currently limited to the Atlanta region. A recent agreement between several agencies restructured responsibilities and focused overall rideshare activities around 1) individual commuters, 2) employer services, and 3) mass media communications and public relations.

Individual commuter services are coordinated by *Commute Connections*, a program of the Atlanta Regional Commission. The most common individual service is rideshare matching in which a traveler is provided information on potential carpool partners or transit services near their residence. Another common individual service is a Guaranteed

Ride Home program, which is available to employees of participating businesses. The rideshare database maintained by Commute Connections covers all residences in North Georgia, and all work sites in the metro Atlanta region. The database currently has 7,000 ride-match records, which is an increase from 2,000 at the beginning of 1999.

Employer services are coordinated by the Partnership for a Smog-Free Georgia (for public sector businesses), the Metropolitan Atlanta Chamber of Commerce (for individual private-sector businesses), and six Transportation Management Associations (for private sector businesses in six major activity centers). Employer services focus on direct outreach and contact with public and private-sector businesses. These services can include helping businesses establish rideshare and vanpool programs, monitoring program performance, and coordination on funding and administration.

The mass media and public relations program is coordinated by the *Clean Air Campaign*. This program is responsible for all medial outreach, advertising, direct mail, special events, market research, and evaluation activities to support ridesharing activities.

In recent years, GDOT worked with local jurisdictions in Columbus, Macon, and Augusta to establish ridematching programs under the Georgia Rideshare Program. In the case of Columbus and Macon, the initial efforts did not result in implementation due to a lack of local funding and sponsorship. A computerized ride-match program was implemented in Augusta during the 1990s, but ended within a few years.

The multi-agency agreement developed for Atlanta could be used as a starting point if rideshare activities were to be expanded statewide. For instance, the rideshare database used by Commute Connections already covers households throughout North Georgia. Also, other areas could tap into the knowledge gained in Atlanta with marketing and public relations.

Vanpooling

A recent ARC study documented 88 formal vanpool groups operating in the Atlanta region. The vanpools are operated under one of three programs:

1. The Georgia Building Authority administers a program that is open to all state employees through a fleet of state-owned vans;
2. Douglas County Vanpool, which was mentioned as an Urban Transit Provider, is the only publicly operated vanpool program, with service available to county residents or employees working at locations in the county; or
3. Metro Vanpool is a third-party service provider that operates vanpools for private employers, TMAs, and individual groups throughout the Atlanta region.

It is also believed that many informal, privately run vanpool-type operations exist throughout the state, particularly in suburban areas of the Atlanta region.

Other TDM Activities

Other TDM strategies currently in use in Atlanta include telecommuting, Transportation Management Associations (TMAs), education and marketing support, and alternative mode subsidies. These other activities tend to focus on providing incentives to encourage travelers to try alternatives other than driving alone.

The Metro Atlanta Telecommuting Advisory Council (MATAC) is an affiliation of public agencies and private businesses with an interest in advancing the use of telecommuting as an alternative to daily work trips. MATAC focuses on education, development, and expansion of telecommuting among its private sector partners.

TMAs are public-private partnerships that promote, implement, and manage TDM programs in specific geographic areas. Since they represent many businesses with thousands of employees, TMAs can reduce costs of implementing and operating individual work site transportation programs. The six TMAs that currently exist in Georgia perform these functions in some of the highest density employment centers in the Atlanta region. Some of the TMAs will be going beyond this administrative role and will operate shuttle services for employers within their area.

Although many of the TMAs were started with private funds, all six now receive “seed money” through ARC to help initiate or improve services for member companies during an initial three-year period. After this initial time, the TMAs will need to be financially self-supporting such as through fee-for-service arrangements for funding through community improvement districts. Other areas in metro Atlanta have expressed an interest in forming a TMA. In general, successful TMAs are characterized by high employment concentration, a commitment by individual businesses in the area, and long-term financial commitments.

The ARC RTP includes \$10 million per year for TDM activities including ridesharing, TMA, education and marketing, and subsidies for vanpools, transit and guaranteed ride home programs. No similar TDM funding is included in the RTPs for the other metropolitan areas in Georgia.

■ 3.5 Intercity Bus Program

Intercity bus is a unique component of Georgia’s public transportation system in that it is essentially operated by private firms that are largely unsubsidized and have a declining level of government involvement and oversight. Decisions regarding routes, service levels, and fares are made almost exclusively by the private firms. Nonetheless, intercity bus is an important component of the statewide transportation system, particularly for lower-income individuals, and funding programs are available to encourage the private operators to initiate or continue specific routes.

Ridership forecasting activities for the statewide intercity rail program considered the potential use of intercity bus as a travel mode. Based on trip surveys and travel data

collected from Greyhound, the report estimated that about 540,000 intercity bus trips began or ended in Georgia in 1995. Of this total, about 70 percent of intercity bus trips were made for non-business reasons. The report also suggested that the busiest departure periods throughout the state are between 7:00 a.m. and noon, as well as between 4:00 p.m. and 7:30 p.m.

The largest single travel market for intercity bus was between Atlanta and Macon, with 51,100 annual trips. However, travel between Georgia cities other than Atlanta accounted for nearly 100,000 annual trips, and travel between these non-Atlanta cities and locations outside of Georgia accounted for an additional 120,000 annual trips. According to Greyhound travel data, intercity bus riders in Georgia tend to be young, single, minority, and female. While over 60 percent of Georgia's intercity bus riders have annual household incomes under \$25,000, they also have a much higher education level than the overall statewide population.

Georgia's intercity bus program is guided by a 1994 plan developed for GDOT. The plan identified the region north of Atlanta, between I-75 and I-85, as the area with the largest unserved need for intercity bus transportation. This plan includes recommendation of a capital assistance program funded jointly with funds from the FTA Section 5311 program and the private operator. The capital assistance program funds up to 80 percent of the purchase price of new ADA-accessible motor coaches that will be used maintain service on "marginal" routes, or to begin service in new areas within Georgia.

Three major activities, all funded under the FTA Section 5311 Intercity Bus Program have been undertaken since development of the 1994 Intercity Bus Plan:

1. Implementation of marketing program for Greyhound's new intercity bus terminal in Atlanta;
2. Purchase and installation of bus terminal guide signs throughout the state; and
3. Purchase of two ADA compliant motor coaches for Southeastern Stages under an 80/20 federal private split.

GDOT indicates that they have recently ordered two additional coaches for Southeastern Stages, and have begun initial negotiations for two more coaches.

Since development of the Intercity Bus Plan, GDOT is not aware of any intercity bus service additions, although cutbacks in service frequency were described as "likely." A detailed review of service changes will be included in an update to the Intercity Bus Plan that is expected to get underway in the next few years.

■ 3.6 Transit Policies, Planning, and Funding

Planning and funding for transit services and is guided by federal and state laws and regulations. In general, state laws, regulations, and guidance have been structured to

match or exceed federal requirements. GDOT's transit activities are guided by Section 32-9 of Georgia Code, which specifies activities that may be undertaken, supported, and funded by GDOT. Importantly, this Code Section designates GDOT as the recipient agency for federal operating and capital grants, and allows GDOT to provide a state funding match at up to 10 percent of the total cost for federally funded projects. This Code Section limits expenditure of state funds for transit to research and planning, capital assistance, advertising and marketing, and "research, development, and demonstration projects in all phases of mass transportation." GDOT is also authorized to establish and operate ridesharing programs, either alone or in cooperation with other agencies and jurisdictions. All of these activities are subject to annual appropriations by the Georgia legislature.

At the state level, the GDOT Office of Intermodal Programs coordinates transit planning for urban and rural areas. This Office devotes considerable attention to administrative and funding coordination for the rural and small urban transit operators. An additional transit planner exists in each GDOT district to provide local support to the transit operators, and to monitor capital and operating needs.

All of the urban transit operators participate in the ongoing regional transportation planning process within their metropolitan areas. This planning process provides the forum for assessing transit needs and issues within the context of overall transportation priorities for the area. The metropolitan planning process is the forum through which funding decisions are made.

Georgia's transit operators also maintain in-house data collection and planning functions that help assist with service planning issues. The larger urban operators maintain more robust planning processes that can include customer surveys and analysis of long-term capital investments and service expansion. Smaller urban areas tend to focus their planning activities on short-term needs and service modification. Transit operators throughout the state indicate that reporting requirements and special data requests can be quite burdensome for small operators. They believe that some resources could be saved if information prepared for the NTDB were used at the state level.

Transit services are funded through a variety of federal, state and local programs, as well as farebox revenue, advertising, and other non-governmental sources. Federal funding comes from formula and discretionary transit programs, "flexible" formula highway programs, and other federal programs particularly in the human resources area. Depending upon the program, these funds can typically be used for capital and operating needs. In FY 1999, Hall Area Transit (Hall County), Chatham Area Transit (Savannah), and the Atlanta Regional Commission received discretionary grants under the Job Access and Reverse Commute program. This new FTA program provides grants for new transit services and programs that are targeted at enhancing employment opportunities for low-income and chronically unemployed individuals.

The State of Georgia, through GDOT, provides capital assistance matching grants for vehicle and equipment purchase in urban and rural areas. GDOT also plans, designs and helps fund HOV lanes, park and ride lots, and other roadway projects that are open for use by transit vehicles. The State does not provide operating assistance to public transit agencies. Initial discussions were held in the mid-1990s about approaching the legislature

for this authority, but due to the negative reaction the request was not made. However, the State provides both operating and capital funding support for the DHR-administered human service transportation program.

Major changes were made to the funding of transit operations with the passage of the Transportation Equity Act for the 21st Century (TEA-21). These changes ended direct operating assistance to larger urban areas under the FTA Section 5309 program. However, these transit agencies were allowed to fund preventative maintenance activities using FTA capital funds. Until recently, Georgia law did not allow state capital funds to be similarly spent on preventative maintenance. Although state statute has been changed to reflect TEA-21 changes at the federal level, administrative changes have not yet been carried out.

Most local government funding for transit services is provided by general fund revenues of municipalities and/or counties. However, several counties such as Cobb and Bibb have some transit capital projects funded through special local options sales tax revenue. Chatham Area Transit (CAT) receives operating and capital support through a special property tax assessment within a transit district. MARTA receives operating and capital support through a one percent sales tax in Fulton and DeKalb counties. The CAT and MARTA funding programs were authorized by the Georgia legislature, and approved by the counties.

4.0 Railroads

The state of Georgia has an extensive railroad network that has served as a basic component of the state's transportation infrastructure for the past 150 years. This network has served as a primary mode for the movement of goods during that period and for the first 100 years also served as the primary mode of passenger transportation. With current state plans for commuter and intercity passenger rail services, the passenger transportation services will become increasingly important over the next decade.

■ 4.1 Georgia Rail Network

Georgia's current rail network consists of a total of 4,732 miles of trackage. This is 306 miles less than in 1989 when the GDOT conducted the "Georgia Rail System Evaluation" (GRSE). The rail network is owned and operated by two class I major railroads and 17 short lines (or class III) railroads (see Figure 4.1). The state of Georgia also has purchased several rail lines. Sixty-four percent of the system is categorized as mainline and the remainder is classified as light density lines (ldl's), which transport less than three million, gross ton-miles per year.

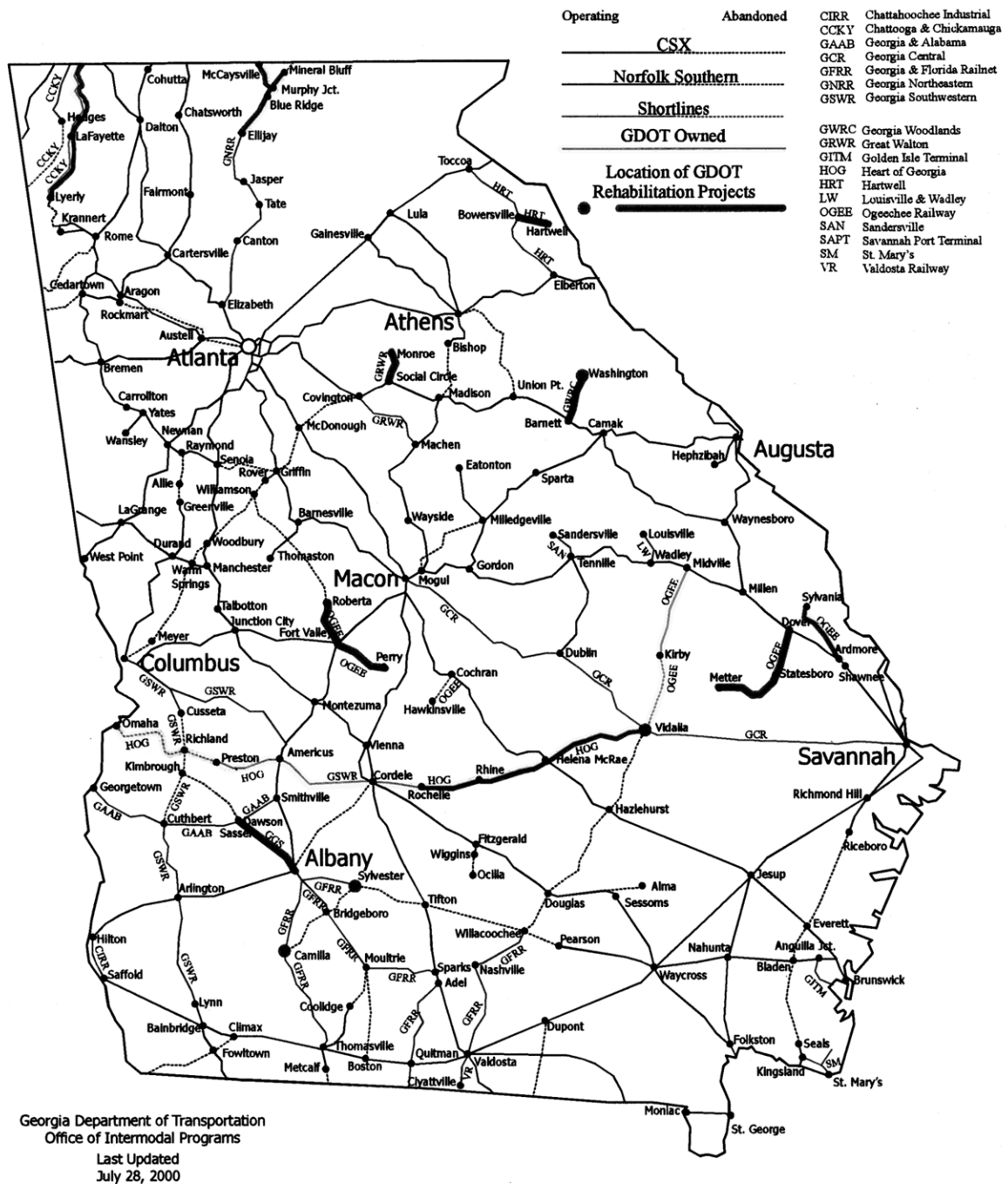
The two class I railroads are Norfolk-Southern (NS) and CSX Transportation (CSX). These two railroads own and/or operate 3,509 miles of trackage or 75 percent of the statewide total. Eighty-five percent of the systems are mainline and the remaining 15 percent are classified as light density lines. Seventeen short-line railroads operate 1,223 miles of light density lines. This accounts for 25 percent of the statewide network.

Since 1977, service has ceased on 1,143 miles of rail within Georgia. During this period GDOT has acquired 281 miles of track that had been proposed to go out-of-service.

■ 4.2 Freight Traffic

The rail network is a critical link in the movement of commodities, accounting for the transport of approximately 195 million tons per year (mtpy) of originating and terminating freight commodities in 1998. The data shows a considerable increase from the last reporting period from 1986 to 1990. Based on the 1998 data, the top five commodity categories are: coal (28.6 percent), stone/clay/glass (8.2 percent), pulp, paper, or allied products (6.7 percent), chemicals or allied products (7.9%), and hazardous materials (7.5 percent). Origins were fairly evenly spread throughout the state while terminating freight is more heavily focused on the coastal, Atlanta and northwest areas.

Figure 4.1 Georgia Rail System



Rail freight traffic densities are depicted in Figure 4.2. As can be seen from that graphic, the major flows radiate from Atlanta, predominantly to the north, east, and south, from Atlanta to Jacksonville, Fla., and along the coastal area.

Figure 4.2 Rail Line Densities

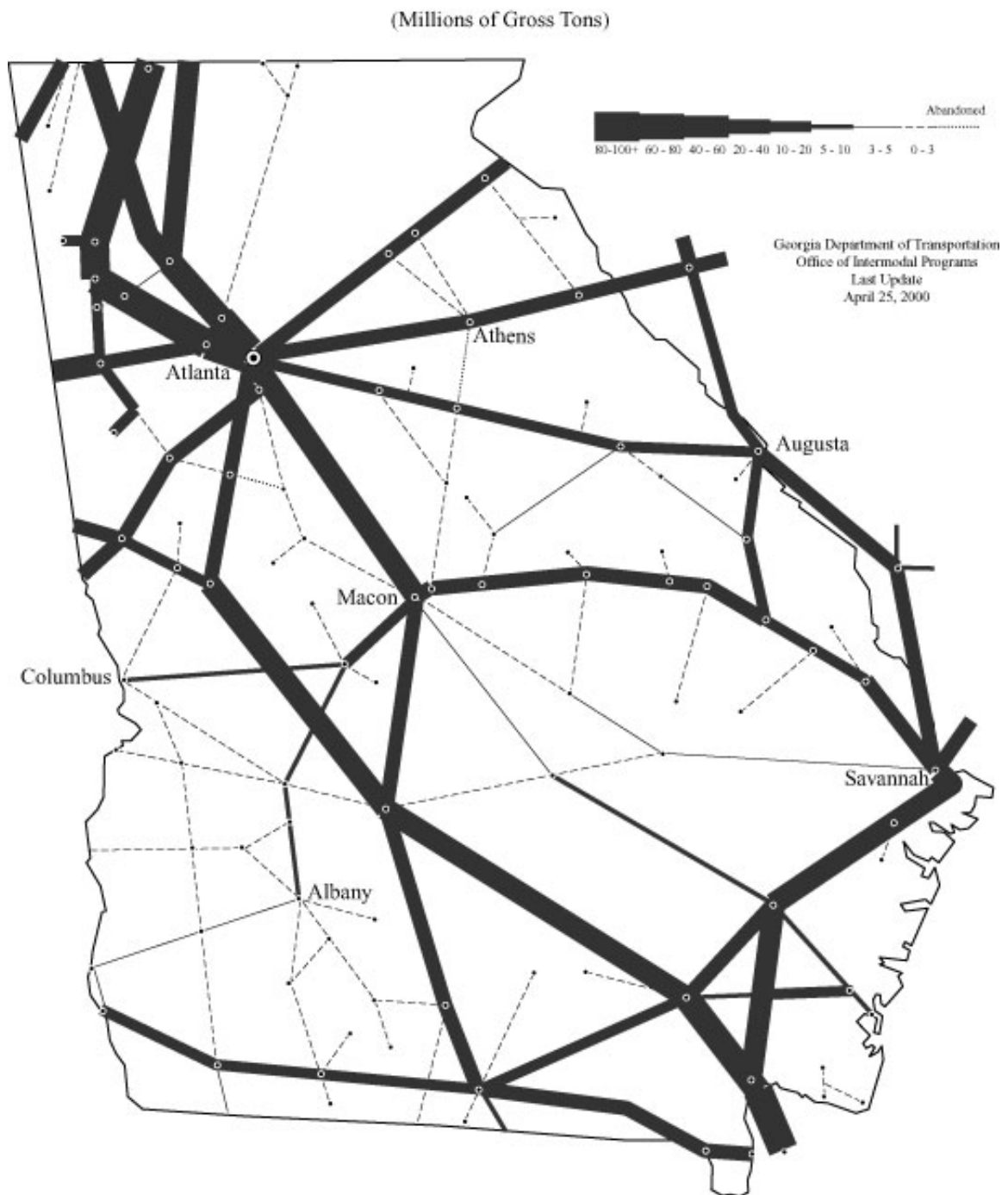


Table 4.1 Georgia Originating/Terminating Rail Freight Traffic

Year	Carloads	Tons	Tons per Car
1986	1,571,994	104,432,432	66.43
1988	1,633,309	111,954,922	68.54
1989	1,581,480	101,806,996	64.37
1990	1,471,364	109,658,995	74.53
1998	3,504,493	194,838,359	55.59

Source: Office of Intermodal Programs, June 2000.

■ 4.3 Passenger Rail

Currently, the only intercity rail passenger service in Georgia is provided by AMTRAK. That situation should soon change, however, as the state is about to implement a plan to provide commuter rail service in the Atlanta/north Georgia region and intrastate passenger rail service in various corridors throughout the state (see Figure 4.3).

Amtrak

Currently Amtrak provides interstate passenger rail service through Georgia with the Crescent from New Orleans to Washington D.C. through Atlanta, Gainesville and Toccoa. The other Amtrak service is the Silver Service from Boston to Miami through Savannah and Jesup.

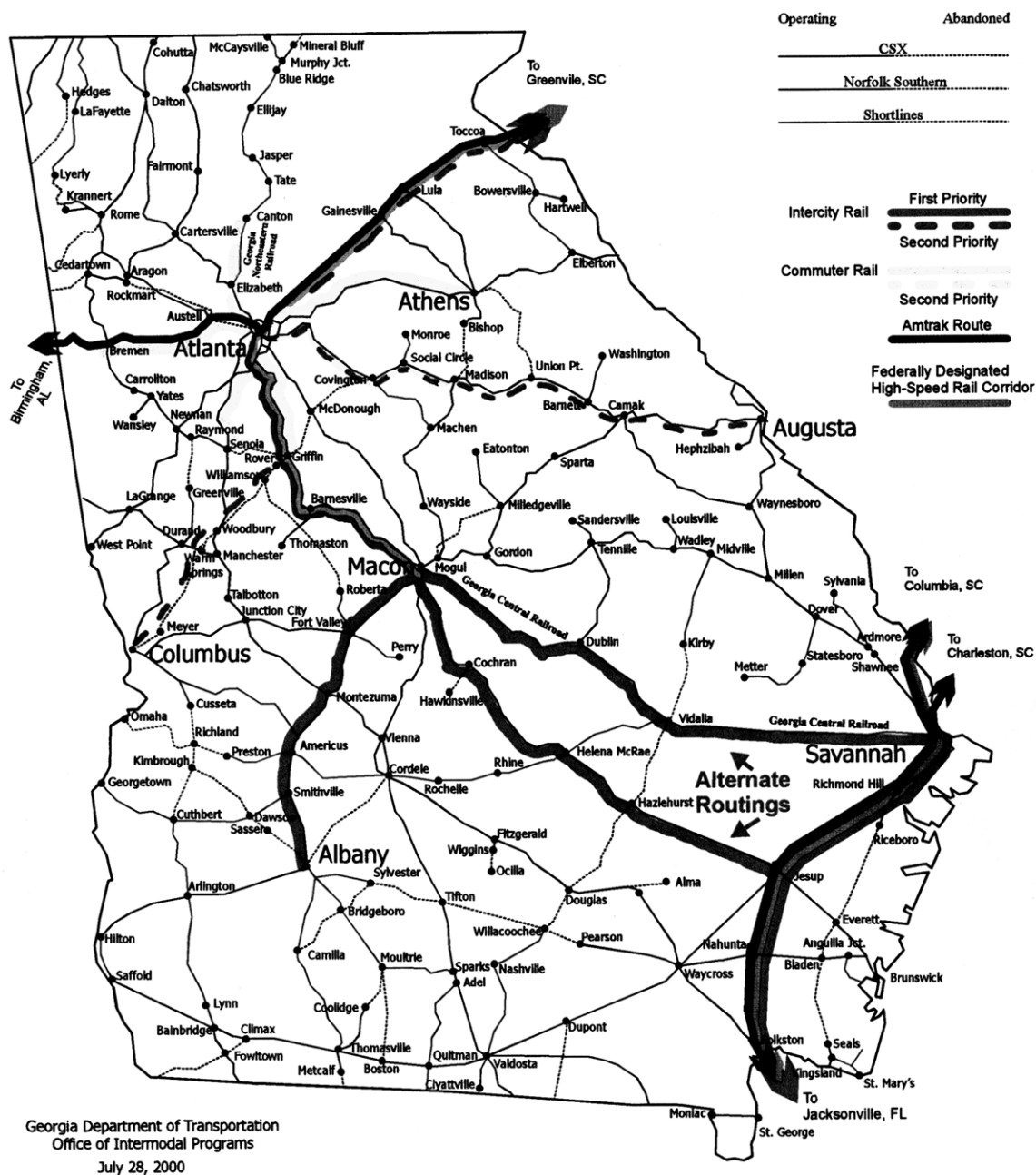
The Crescent runs once daily in each direction. The total route ridership through Georgia in 1999 was approximately 264,000. Total boardings and alightings for 1999 by station was 85,377 in Atlanta, 5,574 in Gainesville, and 3,361 in Toccoa.

Table 4.2 Amtrak Crescent Service

City	Departure Northbound	Departure Southbound	FY 1997 Total Passengers	FY 1998 Total Passengers	FY 1999 Total Passengers
Atlanta	7:46 p.m.	9:45 a.m.	71,232	87,292	85,377
Gainesville	8:41 p.m.	8:10 a.m.	3,866	4,764	5,574
Toccoa	9:22 p.m.	7:27 a.m.	2,879	3,014	3,361

Source: Amtrak.

Figure 4.3 Proposed and Existing Georgia Passenger Rail System



The Silver Service is provided by three trains daily: the Silver Palm, the Silver Star, and the Silver Meteor. Each train provides once daily service to Savannah; Jesup is served once daily only by the Silver Meteor. Total Silver Service ridership through Georgia in 1999 was approximately 736,000. Total boardings and alightings for 1999 by station was 47,124 in Savannah and 6,757 in Jesup.

Table 4.3 Amtrak Silver Service

City	Departure Northbound	Departure Southbound	FY 1997 Total Passengers	FY 1998 Total Passengers	FY 1999 Total Passengers
Savannah	SM 6:39 p.m. SS 10:25 p.m. SP 5:21 a.m.	SM 9:54 a.m. SS 5:21 a.m. SP 11:23 p.m.	42,218	45,444	47,124
Jesup	SM 5:23 p.m.	SM 9:54 a.m.	6,686	6,896	6,757

Source: Amtrak.

Notes: SM – Silver Meteor; SS – Silver Star; SP – Silver Palm.

Total passengers is total for all three Silver Service trains.

Georgia Rail Passenger Program

The Georgia Rail Passenger Program (GRPP) is a tri-party agreement entered into in November 1999 by the Georgia Department of Transportation (GDOT), Georgia Rail Passenger Authority (GRPA), and Georgia Regional Transportation Authority (GRTA). The agreement defines responsibilities of the various agencies in developing and implementing a system of commuter rail services, intrastate rail services and the Atlanta Downtown Multimodal Passenger Terminal. GDOT is primarily responsible for planning, designing and constructing the rail infrastructure improvements on existing or new rail corridors, including the Atlanta Downtown Multimodal Passenger Terminal. GRPA is primarily responsible for the operational aspects of the program and the siting and design of the rail stations. GRTA is primarily responsible for integrating local and state transportation and land use decisions.

The GRPP includes a Commuter Rail Plan and an Intrastate Rail Plan, based on findings of GDOT's Commuter Rail Plan (1995 & update in 1997), Intrastate Rail Plan (1997) and detailed design work for the Downtown Atlanta Multimodal Passenger Terminal (1996). These are not individual components, but a well-integrated passenger rail system.

The hub of the future passenger rail systems is the Atlanta Downtown Multimodal Passenger Terminal. This facility, to be constructed adjacent to the MARTA Five Points Station, will be the major terminal of the commuter and intrastate rail services and will provide facilities for AMTRAK, connections to MARTA rail and bus services and possibly connections to intrastate busses. Estimated cost is \$165 million without parking facilities. The initial phase, which would include improvements to support Athens-to-Atlanta and Houston County-Macon-Atlanta services, is estimated to cost \$55 million and scheduled to open in 2004. A second phase to support additional services is estimated at \$35 million and the final phase to accommodate all additional services in the program is estimated at \$75 million for completion in 2009.

The Commuter Rail Plan includes implementation of commuter rail services in seven corridors. Radiating from Atlanta, service would be provided in corridors to Griffin (2003), Athens (2004), Canton (2007), Bremen (2008), Covington (2008), Gainesville (2009), and Senoia (2009). The system includes 45 stations in 25 counties and is expected to provide service to over 70 percent of the state's population by 2010. Corridors are shown on Exhibit XX and proposed stations and corridor estimated costs are shown in Table 4.4.

Table 4.4 Commuter Rail Service Corridors

Corridor	Stations	Year Open	Est. Cost
Griffin to Atlanta	Griffin, Hampton, Lovejoy, Jonesboro, Morrow, Forest Park	2003	\$70 million
Athens to Atlanta	Athens, Bogart, Winder, Dacula, Lawrenceville, Reagan Parkway, Lilburn, Tucker, Emory	2004	\$170 million
Canton to Atlanta	Canton, Holly Springs, Sandy Plains, Marietta, Cumberland, Moore's Mill/Bolton	2007	\$100 million
Bremen to Atlanta	Bremen, Temple, Villa Rica, Douglasville, Austell, Mableton	2008	\$55 million
Covington to Atlanta	Covington, Conyers, Lithonia, Stone Mountain, Avondale	2008	\$70 million
Gainesville to Atlanta	Gainesville, Oakwood, Sugar Hill, Suwanee, Duluth, Norcross, Lenox	2009	\$85 million
Senoia to Atlanta	Senoia, Peachtree City, Tyrone, Red Oak, East Point	2009	\$70 million

The Intrastate Rail Plan includes service to 15 cities on seven lines with 790 miles of upgraded railroads at speeds up to 110 miles per hour. The service corridors include Atlanta to Macon with extensions to Albany, and to Savannah/Jacksonville; Griffin to Columbus; Gainesville to Greenville, S.C.; and, Covington to Augusta. It is estimated that by 2020 these lines would carry 1.6 million passengers per year.

Table 4.5 Intrastate Rail Service Corridors

Corridor	Stations	Year Open	Est. Cost
Atlanta to Macon via Griffin	Griffin, Macon	2006	\$140 million
Macon to Albany	Americus, Albany	2006	\$100 million
Macon to Savannah	Vidalia, Savannah	2007	\$165 million
Extension to Jacksonville	Alt. Route: Eastman, Jesup	2008	\$30 million
Covington to Augusta	Covington, Social Circle, Madison, Augusta	2008	\$130 million
Gainesville to Greenville, S.C.	Gainesville, Toccoa	2009	\$15 million
Griffin to Columbus	Columbus	2010	\$170 million

An additional rail service corridor is currently under study. The Atlanta-Chattanooga Corridor Magnetic Levitation Train (MagLev) Feasibility Study is underway in competition nationally with six other corridors for a \$950 million implementation grant. That study is being conducted with TEA-21 demonstration grant funds. The technology could achieve speeds up to 300 mph and is proposed to connect Hartsfield Atlanta International Airport and the Atlanta Downtown Multimodal Passenger Terminal with the Cumberland and Town Center areas as Phase I. The system would be extended in later phases to Chattanooga and the Chattanooga Airport.

5.0 Aviation

The aviation system in the State of Georgia consists of 109 open-to-the-public airports. Of these facilities, nine are commercial air carrier airports, including Hartsfield Atlanta International Airport (HAIA). The remaining 100 airports are general aviation facilities, 94 of which are publicly owned and operated. The remaining six general aviation airports are privately owned and operated.

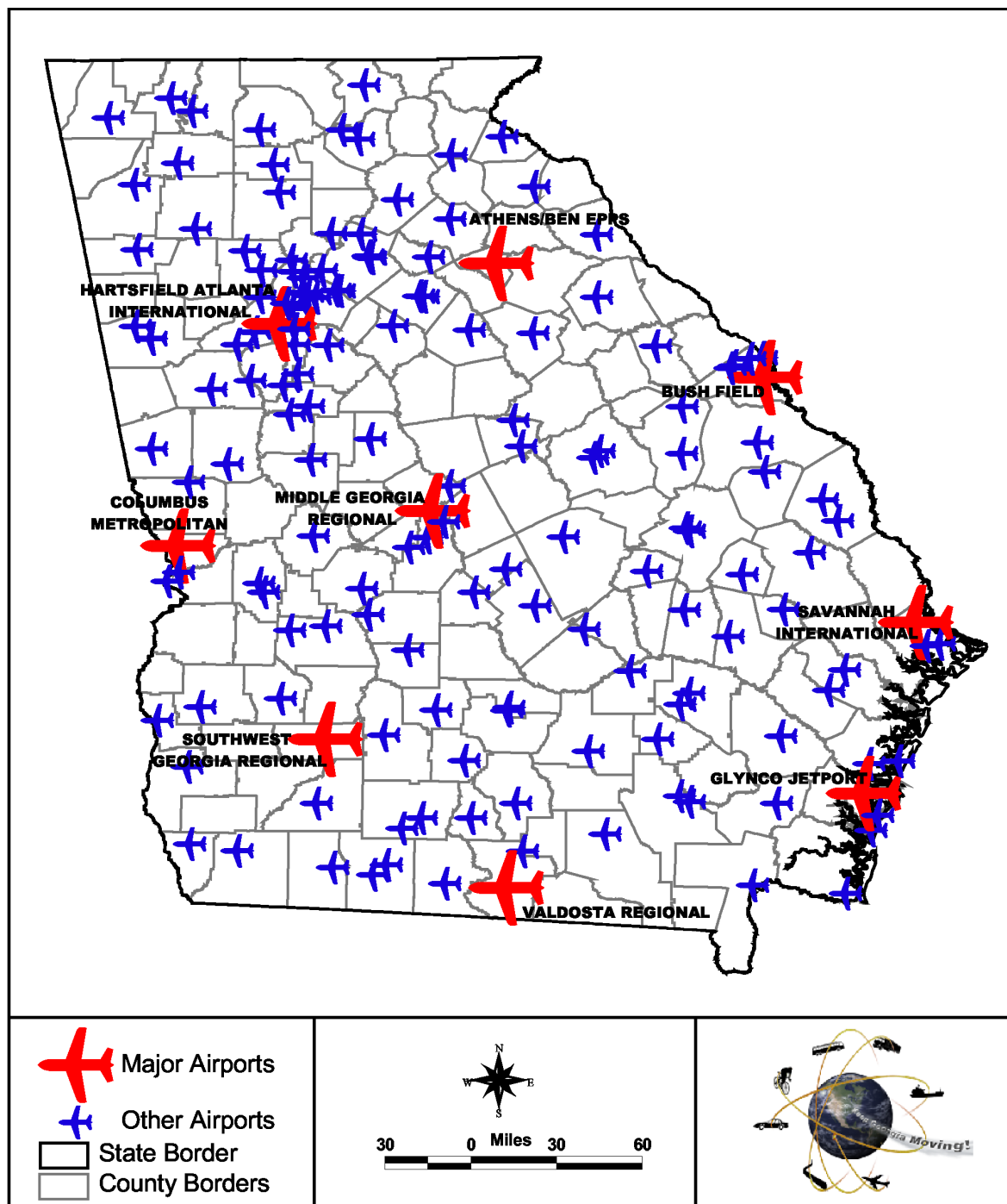
■ 5.1 Air Carrier Airports

The nine air carrier airports, as shown in Figure 5.1, handled a total of 40.3 million enplaned passengers in 1999, including 39.1 million enplanements at HAIA which has been the world's busiest airport in passengers for the past two years and which in 1999 was also the world's busiest airport in total operations (910,000). Of the remaining eight facilities Savannah International Airport (777,200) and Augusta-Bush Field (209,900) were the busiest airports in terms of passenger enplanements. The total 1999 enplanements for each facility are shown in Table 5.1.

Table 5.1 Georgia Air Carrier Airports – 1999 Enplanements

Atlanta – Hartsfield Atlanta International	39,121,444
Albany – Southwest Georgia Regional	45,012
Athens – Ben Epps	10,438
Augusta – Bush Field	209,892
Brunswick – Glynco Jetport	24,473
Columbus – Columbus Metropolitan	94,120
Macon – Middle Georgia Regional	30,493
Savannah – Savannah International	777,217
Valdosta – Valdosta Regional	32,248
Total	40,345,342

Figure 5.1 Commercial Air Carrier Airports



Enplanement Trends

During the past 10 years Atlanta, Savannah and Valdosta have seen increases in the number of enplaned passengers. The other six airports have seen decreases over that same period. The highest growth rate was at Valdosta with an 88.42 percent increase; the greatest decline was at Athens with a 43.75 percent decline. Table 5.2 shows passenger activity over that 10-year period.

Table 5.2 Georgia Air Carrier Airports – Passenger Growth/Decline 1990-1999

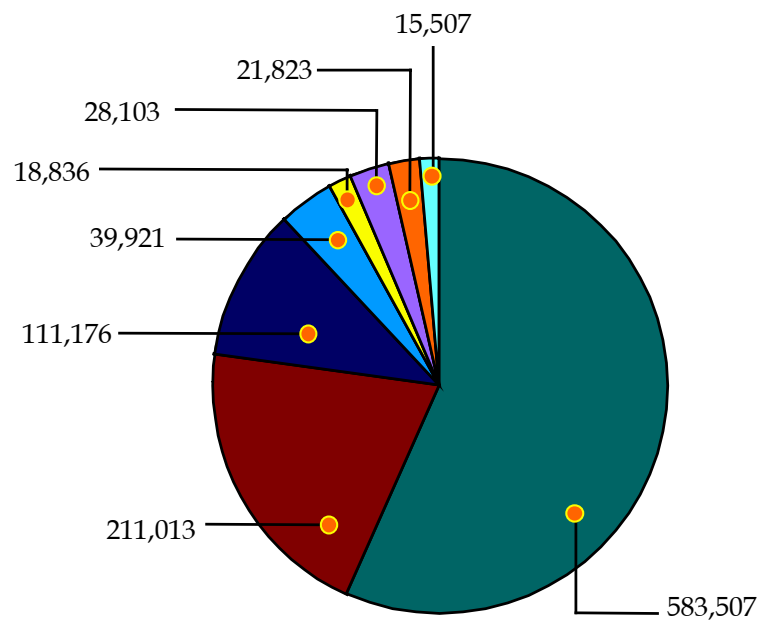
Airport	1990	1994	1999	Change 1990-1999
Atlanta – Hartsfield Atlanta International	23,814,719	27,003,569	39,121,444	+64.27%
Albany – Southwest Georgia Regional	49,229	39,921	45,017	-8.56%
Athens – Ben Epps	18,556	15,507	10,438	-43.75%
Augusta – Bush Field	227,277	211,013	209,892	-7.65%
Brunswick – Glynco Jetport	38,905	21,823	24,473	-37.01%
Columbus – Columbus Metro.	116,366	111,176	94,120	-19.12%
Macon – Middle Georgia Regional	42,018	28,103	30,493	-27.43%
Savannah – Savannah International	547,149	583,507	777,217	+42.05%
Valdosta – Valdosta Regional	17,115	18,836	32,248	+88.42%
Totals	24,871,334	28,033,455	40,345,342	+62.22%

Sources: Atlanta Department of Aviation; GDOT Office of Intermodal Programs.

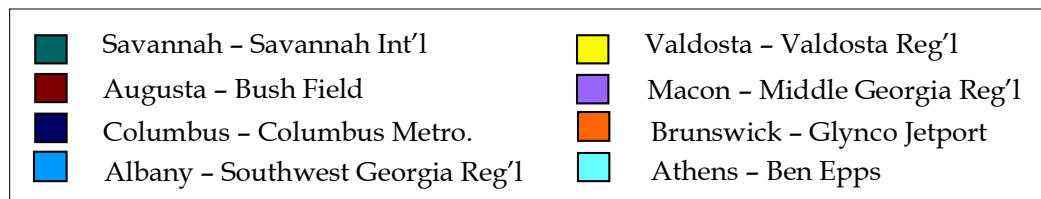
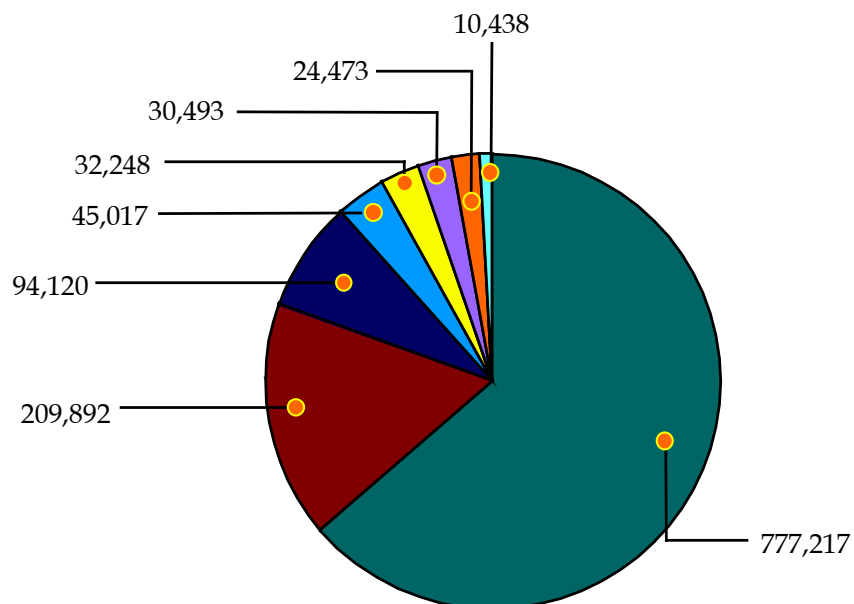
The dominance of Hartsfield in the air carrier system is evident. Without Hartsfield, the remaining air carrier airports increased from 1,056,615 enplanements in 1990 to 1,223,898 in 1999 for a growth rate of +15.83 percent. Of the non-Hartsfield airports, as shown in Figure 5.2, Savannah International has the largest share of enplanements and that share has increased since the adoption of the 1995 Statewide Transportation Plan.

Figure 5.2 Passenger Enplanements (Excluding Hartsfield)

1994



1999



Cargo Trends

Air cargo is carried in the belly of passenger aircraft or on the dedicated all-cargo carriers such as Federal Express. The three airports served by all-cargo carriers are Hartsfield Atlanta International Airport, Southwest Georgia Regional Airport (Albany), and Savannah International Airport. These three airports were reported in the 1994 Georgia Statewide Aviation System Plan (GSASP) as serving 99.86 percent of the total 1992 statewide enplaned cargo. Each airport continues to show strong growth in cargo handling.

Hartsfield continues to exhibit strong growth with a 20 percent increase from 1995 to 1999. In 1999, the airport completed the first phase of the Southside Air Cargo Complex with completion of 300,000 square feet of cargo handling facilities for all-cargo carriers. An additional 100,000 square feet is planned for near-term development. This complex will essentially double Hartsfield's capacity for handling all-cargo aircraft.

Albany and Savannah have shown very strong growth from 1995 to 1999. During that period Albany's growth in total cargo was over 41 percent and Savannah grew in excess of 72 percent. Albany's growth was higher in deplaned cargo (although still strong in enplaned cargo). Savannah has been experiencing very high growth in both enplaned and deplaned cargo. Table 5.3 shows 1995, 1997 and 1999 air cargo data for these three airports.

Table 5.3 Air Cargo Movement 1995-1999, Air Freight + Express (Metric Tons)

Airport	1995	1997	1999	Change 1995-1999
<i>Atlanta – Hartsfield International</i>				
Enplaned	273,924	317,132	321,324	+17.3%
Deplaned	271,032	311,098	332,401	+22.6%
Total	544,956	628,230	653,725	+20.0%
<i>Albany – Southwest Georgia</i>				
Enplaned	3,432	2,783	4,118	+20.0%
Deplaned	4,784	4,575	7,503	+56.8%
Total	8,216	7,358	11,621	+41.4%
<i>Savannah International</i>				
Enplaned	1,445	1,810	2,393	+65.6%
Deplaned	2,481	4,868	4,371	+76.2%
Total	3,926	6,678	6,764	+72.3%

Source: Airport operators.

Air Carrier Airport Facility Summaries

A summary of the airport facilities for the nine air carrier airports is given in Table 5.4. The size of the facilities corresponds to the airports ranking in demand by air passengers. Atlanta-Hartsfield is by far the largest airport in terms of runways, runway length, terminal size, and operations. Savannah International is the next largest airport in terms of facilities, as it is in passenger demand. A complete listing of facilities at the air carrier airports is contained in Appendix E.

Table 5.4 Air Carrier Airport Facilities

Airport	Runways (Number/Max. Length)	Terminal Size (S.F.)	Operations (Year)
Atlanta – Hartsfield Atlanta International Airport	4 (11,889)	5,800,000	910,000 (1999)
Albany – Southwest Georgia Regional	2 (6,601)	32,000	36,068 (1998)
Athens – Ben Epps	2 (5,522)	52,000	52,420 (1998)
Augusta – Bush Field	2 (8,001)	86,000	39,259 (1998)
Brunswick – Glynco Jetport	1 (8,001)	15,900	22,190 (1998)
Columbus – Columbus Metropolitan	2 (6,998)	55,000	68,886 (1998)
Macon – Middle Georgia Regional	2 (6,501)	26,000	41,751 (1998)
Savannah – Savannah International	2 (9,701)	277,000	94,269 (1998)
Valdosta – Valdosta Regional	3 (6,302)	21,000	49,028 (1998)

Planned Improvements For Georgia Air Carrier Airports

Each of the nine air carrier airports has developed growth plans to provide facilities necessary to improve current service conditions and provide for future growth. The following paragraphs summarize these planned airport improvements for short-, mid-, and long-term implementation. The total planned expenditure for Georgia Air Carrier Airports is \$5.452 billion including \$5.371 billion for Hartsfield Atlanta International Airport and \$81 million for the other eight airports combined. The summary of air carrier expenditure is shown in Table 5.5. A complete list of improvement is shown in Appendix D.

Table 5.5 Air Carrier Airport Improvements

Airport	Period of Improvements	Nature of Improvements	Expenditure (Millions)
Atlanta – Hartsfield Atlanta International Airport	2000 to 2015	Fifth Runway Construction, runway extension , Concourse e Expansion, other terminal and airfield improvements	\$5,371.0
Albany – Southwest Georgia Regional	1998 to 2012	Runway, terminal and airfield improvements	\$6.6
Athens – Ben Epps	1998 to 2012	Runway, terminal and airfield improvements	\$7.5
Augusta – Bush Field	1998 to 2012	Runway, terminal and airfield improvements	\$15.8
Brunswick – Glynco Jetport	1998 to 2012	Runway, terminal and airfield improvements	\$7.0
Columbus – Columbus Metropolitan	1998 to 2012	Runway extension terminal expansion and airfield improvements	\$13.7
Macon – Middle Georgia Regional	1998 to 2012	Runway, terminal and airfield improvements	\$7.1
Savannah – Savannah International	1998 to 2012	Runway, terminal and airfield improvements	\$18.0
Valdosta – Valdosta Regional	1998 to 2012	Runway, terminal and airfield improvements	\$5.3

■ 5.2 General Aviation Airports

Georgia currently has a system of 100 open-to-the-public general aviation airports. Six of these facilities are privately owned and operated. These include Mathis (Cumming), South Fulton (Palmetto), Berry Hill (Stockbridge), Warner Robbins Air Park (Warner Robbins), Peach State (Williamson), and Rust Airstrip (Woolsey). The remaining 94 airports are publicly owned and operated.

The 1994 Georgia Statewide Aviation System Plan (GSASP) classified the publicly owned general aviation facilities into three levels for planning purposes. Specific criteria were established for each level of airport, as well as an upgrade and development program. General criteria are presented below. For specific criteria refer to the GSASP.

The highest classification is Level III – Business Airports of Regional Impact. These airports are expected to have a minimum runway length of 5,500 feet (minimum 100 feet wide), precision instrument approaches, improved communications and lighting, and a terminal building of at least 2,000 square feet. The GSASP goal is to have a Level III airport within a 45-minute drive of any location in the state.

The next classification of airport is Level II – Business Airports of Local Impact. The GSASP identifies this level of airport as having a minimum runway length of 5,000 feet (minimum 100 feet wide), non-precision approach instrumentation, improved communications and lighting, and a terminal building of at least 1,500 square feet. The GSASP goal is to have a Level II airport within a 30-minute drive of any location in the state.

The minimal classification is Level I – Minimum Standard Utility Airports. The GSASP identifies this level of airport as having a minimum runway length of 4,000 feet (minimum 60 feet wide), non-precision approach instrumentation, improved lighting, and a terminal building of at least 750 square feet.

There are presently 27 general aviation airports that don't meet the minimum standards of Level I, 24 that meet Level I, 25 that meet Level II, and 8 that meet the standards of Level III. The GSASP plans to reduce the number of airports falling below the Level I standard to 0, to increase the number of Level II airports to 37, to increase the number of Level II airports to 36, and to increase the number of Level III airports to 31. As shown in Table 5.6, this will be accomplished by increasing the facilities at selected airports. In no case will an airport be reduced in classification. A complete listing of the specific improvements by airport is listed in Appendix C.

Table 5.6 GSASP Airport Classification Upgrades

Number of Airports Current Classification	Proposed Classification		
	Level I	Level II	Level III
Below Level I	27	–	–
Level I	10	10	4
Level II	–	16	19
Level III	–	–	8

Governor's Regional Airport Enhancement Program

The Governor's Regional Airport Enhancement Program was a one-time supplemental budget appropriation in FY 1998. The program provided \$35 million in state funds to upgrade 27 strategically located publicly owned airports. These airports were defined in the GSASP as airports with regional impact. The state appropriated funds for

improvements at these airports that will allow them to serve corporate aircraft and enhance the opportunity for local economic development.

The appropriated state funds were offered as grants to upgrade specific regional general aviation airports that are located within a 45-minute drive of every Georgia community. The grants provide funding for runway extensions to 5,500 feet, construction of the required taxiways to serve the extended runway, necessary runway and taxiway lighting systems and the installation of state-of-the-art electronic weather, navigational and approach-aid systems to equip the airport for all weather operation.

The \$35 million dollars was obligated by GDOT and the 27 airport owners in FY 1998. Grant funds have been available to the airports as the owners contract for specific work items. State funds are limited to 75 percent of the cost of the project. Planning, environmental, design and construction are eligible for funding assistance. All land acquisition costs are the responsibility of the airport owner. A summary of the Governor's Regional Airport Enhancement Program is contained in Appendix F.

6.0 Ports

Georgia's ports and waterways – both publicly and privately owned/operated – are a vital component of its statewide transportation system and its link to international markets. Taken together, more than 20 million tons of commodities were moved through nearly 40 public and private terminals in the state of Georgia in calendar year 1998. Operations through the Georgia Ports Authority (GPA) terminals and port-related industries account for over 80,000 jobs and state/local taxes of \$585 million annually (Source: GPA).

This section describes Georgia's four major port complexes – Savannah, Brunswick, Bainbridge and Columbus – in terms of current and anticipated future facilities, access systems (water, truck, rail and/or pipeline), operations, commodity flows, traffic and critical planning issues. The locations of these four port complexes and their major landside highway and rail connections are depicted in Figure 6.1. This section also provides an overview of key regional, national and international issues relevant to planning for Georgia's port facilities.

This section introduces some terms which are commonly used in the maritime industry. Readers who may unfamiliar with these terms are referred to Appendix G, Glossary of Port Terminology.

■ 6.1 Port of Savannah

Description and Location

The Port of Savannah is one of the premier port complexes in the United States. It is comprised of public and private terminals, arrayed along the Savannah River, and handling a diverse range of containerized and non-containerized cargoes. In 1998, the Port of Savannah ranked seventh among U.S. Atlantic Coast ports in terms of container traffic (730,611 TEUs), fourth among U.S. Atlantic Coast ports in terms of international tonnage (14,574,907 short tons), and 39th among all U.S. ports in terms of total tonnage (17,710,606 short tons). Over the past decade, the Port of Savannah has been one of the fastest-growing ports in the country, and it continues to improve its facilities, its accessibility, and its information systems to successfully accommodate its anticipated continued growth.

The general location of the Port of Savannah is indicated on Figure 6.2. The port district includes major facilities located on the Savannah River within the cities of Savannah, Garden City and Port Wentworth. Most of the terminals are located upriver (west and north) from Savannah's historic downtown waterfront, although several are located downriver. Within the Port of Savannah, there are no terminals on the South Carolina side –

Figure 6.1. Georgia's Port Facilities

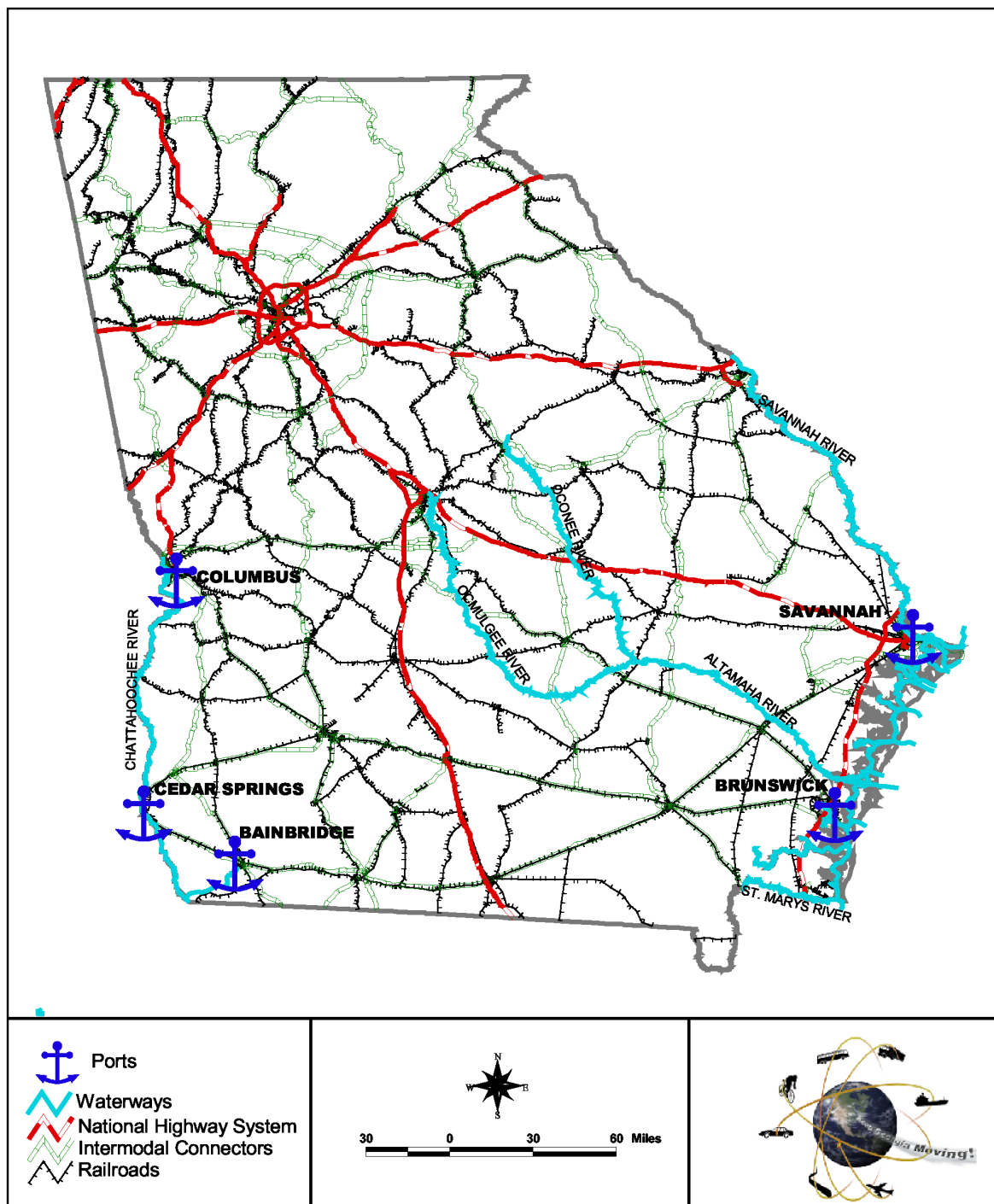
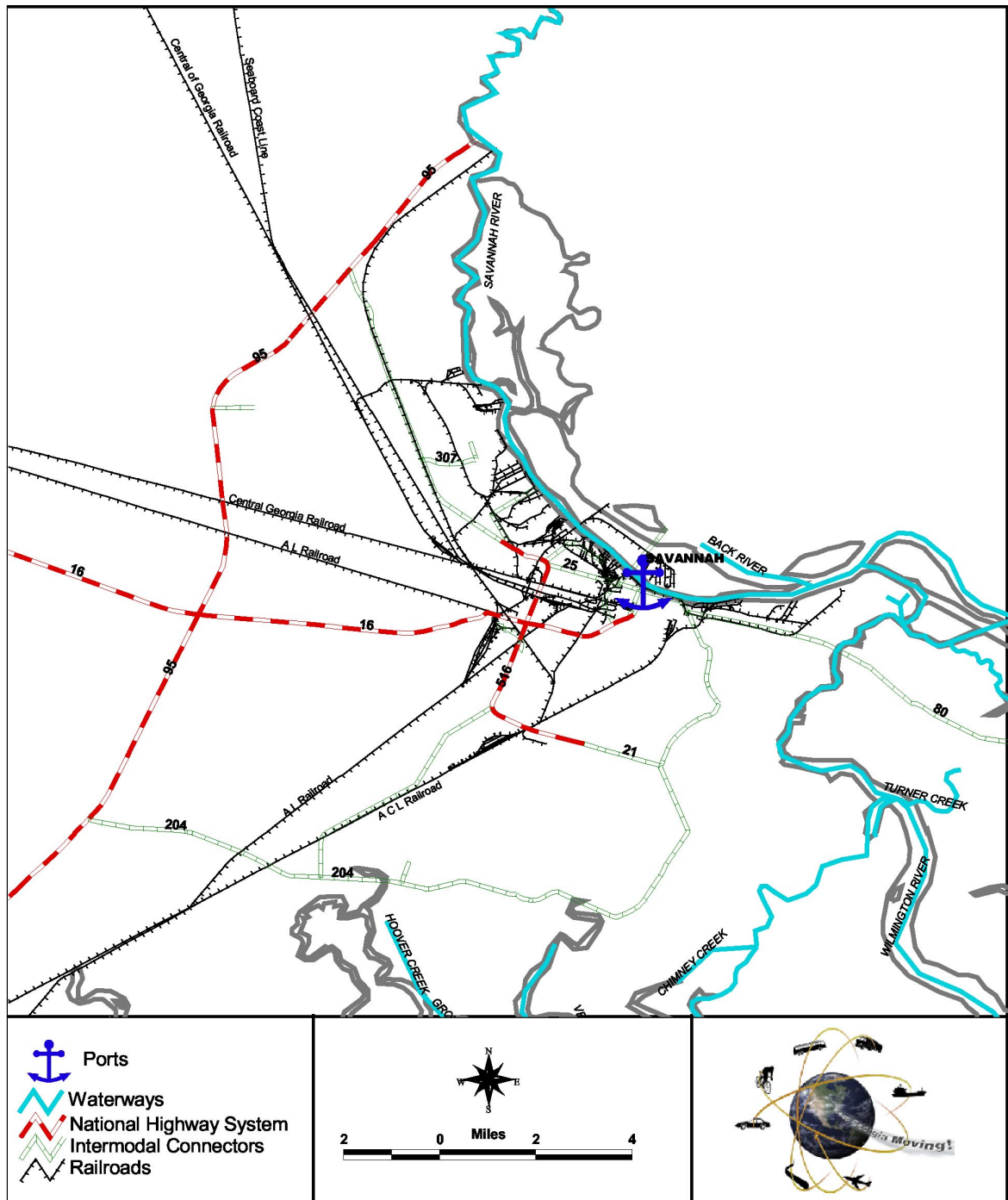


Figure 6.2 Port of Savannah



all terminals are on the Georgia side of the Savannah River. The Savannah River provides access to the Atlantic Ocean and the Atlantic Intracoastal Waterway. The Port of Savannah primarily handles deep-draft ocean-going vessels. Containerized cargoes are handled at GPA's Container Port at Garden City; non-containerized cargoes are handled at GPA's Ocean Terminal in Savannah, and at numerous private terminals along the Savannah river. The port district also includes several small commercial fishing and vessel mooring and repair facilities on the Wilmington River, but these do not handle substantial volumes of cargo.

Port of Savannah Facilities, Operations and Improvements

The Port of Savannah includes two public terminals owned and operated by the Georgia Ports Authority (GPA). GPA's Containerport in Garden City comprises 1,120 acres and over 7,600 contiguous linear feet of vessel berthing, making it one of the largest container terminals in the U.S. The Containerport also includes some handling of liquid bulk, roll-on/roll-off and non-containerized general cargoes. GPA's Ocean Terminal in Savannah comprises 208 acres and over 6,600 linear feet of vessel berthing, and handles a variety of non-containerized general cargoes.

The Port of Savannah also includes 20 privately owned terminals engaged in cargo handling. Some of these terminals are primarily designed for the movement of waterborne commodities for multiple customers, while others are essentially manufacturing facilities that have the capability of shipping and receiving their own materials and products by vessel, as an alternative to truck and rail.

Except at the upper reaches of the Savannah River, a 42-foot-deep navigation channel is to be maintained by the U.S. Army Corps of Engineers. Rail access is provided by Norfolk Southern and CSX; most terminals have service by one or both carriers. Two short-line railroads also provide service – the Savannah State Docks Railroad (which switches cars for the intermodal railyard within GPA's Containerport), and the Georgia Central Railroad (which switches cars for the Union Camp facility). Major truck access is provided via I-95, I-16, I-516, GA 21, U.S. 80, U.S. 17, and GA 307, connecting with GA 25, which parallels the Savannah river. Terminals in Port Wentworth, Garden City and Savannah north of downtown are accessed directly from GA 25 and local connectors; terminals south of downtown Savannah are accessed from President Street.

Detailed summaries of the Port of Savannah terminal facilities and their access systems (vessel navigation, highway, rail, and pipeline) are presented in Appendix Table H.1; a brief summary of this information is presented in Table 6.1 below.

Table 6.1 Port of Savannah Terminal Facilities

Name	Location	Major Commodities
GPA, Containerport (including Ammonia and Dry Bulk Wharf)	Garden City	Containerized goods; Anhydrous ammonia; Grain and dry bulk
GPA, Ocean Terminal	Savannah	General cargo
Amoco Oil Co., Savannah Refinery	Savannah	Crude oil; Petroleum products
Colonial Oil Industries, Plant #1	Savannah	Petroleum; Chemicals
Colonial Oil Industries, Plant #2	Savannah	Liquid and dry bulk; Clay; Petroleum; Chemicals
Citgo Asphalt Refining	Savannah	Asphalt
Gold Bond Building Products	Savannah	Gypsum; Bauxite; Asphalt Oil
Union Camp Corporation	Savannah	Paperboard
Southern Bulk/Southern Minerals	Savannah	Clay; Coal
Atlantic Wood Industries Wharf	Port Wentworth	Timber; Forest products
Georgia Pacific Corp.,	Port Wentworth	General cargo; Forest products
Koch Materials Co. Dock	Port Wentworth	Asphalt
Savannah Sugar Refinery Wharf	Port Wentworth	Raw sugar; Molasses; Fuel oil
Savannah Electric and Power Co.	Port Wentworth	Fuel oil
Stone Savannah River Pulp and Paper	Port Wentworth	Linerboard; Black liquor
Blue Circle Atlantic Wharf	Hutchinson Isl.	Bulk cement
East Coast Warehousing	Savannah	General cargo
Chevron USA	Savannah	Petroleum products
Domtar Gypsum	Savannah	Gypsum
Gary Concrete Products Barge Slip	Savannah	Concrete products
Powell-Duffryn Terminals Wharf	Savannah	Chemicals; Petroleum; Liquid bulk products
UNOCAL Corp.	Savannah	Petroleum products

Sources: U.S. Army Corps of Engineers, Port Series #14; Georgia Department of Transportation, Chatham County Intermodal Freight Study; and GPA.

Waterborne commodity flows for the entire Port of Savannah in calendar year 1998 are presented in detail in Appendix Table H.2. Data for the Port District as a whole – including both public and private terminals – was provided by the U.S. Army Corps of Engineers. Data on GPA facilities was provided by GPA, and is presented in detail in Appendix Table H.3. Data on individual private terminals is not available from public sources – this information must be obtained from the terminals themselves. For general planning purposes appropriate to the Statewide Plan, the total commodity flow through all private terminals in the Port of Savannah can be estimated by taking the Port District total and subtracting the GPA facilities data. This information is summarized in Table 6.2 below.

Table 6.2 Port of Savannah Waterborne Commodity Flows, CY 1998

Commodity	Short Tons (Thousands)	Containers (TEUs)
Foreign Imports	8,279	
• Sand, gravel, rock, stone	928	
• Petroleum products	812	
• Iron and steel products	799	
• Chemicals	787	
• Lime, cement, glass	701	
Foreign Exports	6,296	
• Sulfur, clay, salt	2,642	
• Paper products	886	
• Pulp, waste paper	677	
• Chemicals	509	
• Forest products	335	
Domestic Inbound	2,125	
• Petroleum products	1,062	
• Chemicals	513	
• Agricultural products	448	
Domestic Outbound	687	
• Petroleum products	557	
• Manufactured products	126	
Total, all commodities	17,710	
Subtotal, GPA	8,800	734,866
Subtotal, private terminals	8,910	

Sources: U.S. Army Corps of Engineers, Waterborne Commerce of the United States, 1998; and Georgia Ports Authority.

In addition to waterborne commerce, the Port of Savannah facilities generate truck and rail movements – either to the terminals (in the case of export moves) or from the terminals (in the case of import moves). In many cases, a truck or railcar that carries a load in one direction is empty in the other direction. Also, the total tonnage carried by a truck or a railcar will vary depending on the commodity and how it is handled. As a result, there is no definitive or standard relationship between waterborne tonnage and landside traffic generation – it is a “case by case” situation (Source: U.S. DOT, Landside Access for Intermodal Facilities Training Course, 1996).

GPA collects extensive and detailed data on “gate transactions” – the trucks and railcars that move through the gates of its facilities with loads, or with equipment (such as a chassis) that is tracked by the terminal operator. However, this is not always a full measure of the total number of vehicles moving into or out of a facility. Furthermore,

while private terminals typically keep comparable records on gate transactions, this information is not publicly available, and also tends to underestimate total vehicle movements. Given these limitations, the best way to measure the total truck and auto traffic to and from a terminal is usually to take vehicle classification counts on the access driveway directly outside a facility gate, and to do so over a sampling period that accurately captures the peak day(s) of the week, the peak week(s) of the month, and the peak month(s) of the year. The best way to assess rail traffic is to obtain data directly from the rail carriers and customers where possible, and some useful data of this type was collected for year 1992 as part of the Chatham County Intermodal Freight Study. Terminal traffic data (vessel activity, gate counts and inland distribution activity, where known) for Port of Savannah terminals is presented in Appendix Table H.4.

A wide range of improvements to enhance the efficient movement of vessels, trucks, railcars and freight information are planned in the Savannah area, and will have significant impacts on future activities at the Port of Savannah. These planned improvements include the following:

- **GPA Containerport Expansion** – GPA has nearly completed the development of Container Berth #7, which adds 94 acres of container storage and 1,200 feet of additional berthing. Planning is underway for the development (possibly by 2001) of Container Berth #8, which will add 83 more acres and 1,700 more feet of berthing.
- **GPA James D. Mason Intermodal Container Transfer Facility (ICTF)** – GPA is currently constructing a 150-acre intermodal railyard with 40,000 feet of linear track, just across GA 25 from its Containerport terminal, and work is planned for completion in year 2000. The ICTF will allow the direct movement of containers between railcars and the marine terminal complex, eliminating the need to dray containers via truck to the Norfolk Southern and CSX intermodal terminals located several miles inland. Highway grade separations are being constructed on GA 25 (to allow access between Containerport and the ICTF) and GA 307 (over the rail lines exiting the ICTF). The Norfolk Southern and CSX rail lines leading into and out of the ICTF are being realigned.
- **GPA Ocean Terminal Improvements** – GPA is planning to develop a 150,000-square-foot transit shed.
- **Channel Deepening** – A design depth of 46 feet (providing up to 48 feet in practice) has been conditionally authorized for the Savannah River, which would accommodate deeper-draft next-generation containerships.
- **GPA Information Systems Deployment** – GPA is implementing an ambitious program of advanced information technologies for managing trucker pickup and drop off of containers, for tracking containers within the yard, for planning vessel and yard stowage, and for real-time tracking of facility performance data.
- **Colonial Terminals** – One of the largest private terminals in the Port, Colonial Terminals handles both liquid and dry bulk commodities, and is developing a new terminal for the shipment of kaolin (“china clay”).

- **Bay Street Improvements** – One of the major freight mobility problems in the region is truck traffic along Bay Street through Downtown Savannah’s historic district. Bay Street is currently the only link between waterfront industries located south of Downtown and north of Downtown. A variety of studies have been performed over the past 10 years to address this problem. Potential solutions have included construction of a truck/rail tunnel beneath (or paralleling) Bay Street, or a circuitous bypass route utilizing Derenne Parkway and Truman Parkway. No consensus has yet been reached.

■ 6.2 Port of Brunswick

Description and Location

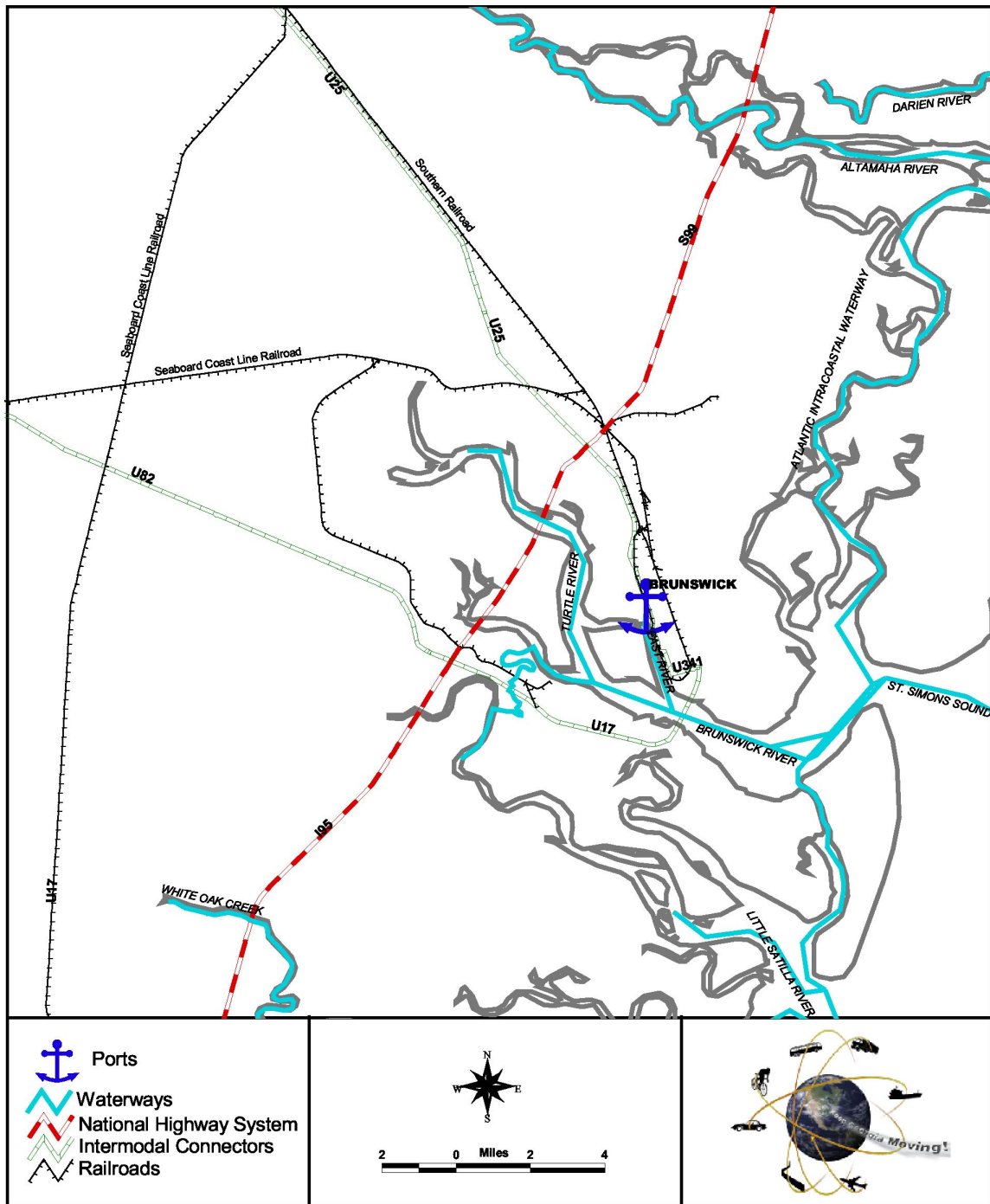
The Port of Brunswick is comprised of public and private terminals, arrayed along multiple waterways (the Brunswick, Turtle, East and Back rivers, along with the Academy, Terry and Dupree creeks), and handling a diverse range of non-containerized cargoes (automobiles, forest products, petroleum products, agricultural products, etc.). In 1998, the Port of Brunswick was 112th on the U.S. Army Corps of Engineers list of the top 150 U.S. tonnage ports, ranking it as a complex of both statewide and national significance.

The Port of Brunswick is located at Brunswick, in the southeastern corner of Georgia, just inland from the Atlantic Ocean and the Atlantic Intracoastal Waterway (see Figure 6.3). The Brunswick River is the main link between the ocean and the multiple waterways serving the port’s various terminals. The Port of Brunswick handles deep-draft ocean-going vessels, along with shallow draft barges and commercial fishing vessels. It does not handle any containerized cargoes, but does handle nearly every other type of cargo (break bulk, roll-on/roll-off, liquid bulk, and dry bulk). The port includes three terminals owned by the Georgia Ports Authority (two of which are operated by GPA), along with numerous privately owned terminals.

Port of Brunswick Facilities, Operations and Improvements

The Port of Brunswick includes three GPA terminals. The Colonel’s Island Terminal comprises 345 acres and over 2,000 feet of berthing area, and primarily handles automobiles (as roll-on/roll-off cargo) and grains and other agricultural products (as dry bulk). The Mayor’s Point Terminal comprises 22 acres and 1,750 feet of berthing area, and primarily handles forest products (as break bulk). Marine Port Terminals, Inc. comprises 145 acres and over 2,400 feet of berthing area. It handles a mix of forest products, gypsum, and petroleum products, and is the only one of the three not operated by GPA itself.

Figure 6.3 Port of Brunswick



The Port of Brunswick also includes five privately owned terminals (this excludes a number of small docks that receive seafood). These are principally manufacturing facilities that have the capability of shipping and receiving their own materials and products by vessel, as an alternative to truck and rail.

Channel depths vary within the Port of Brunswick. The GPA facilities all have project depths of 30 feet, while other facilities have project depths up to 30 feet. Rail access is provided by Norfolk Southern and CSX, and service to Colonel's Island is provided via the Colonel's Island Railroad. Major truck access is provided via I-95 and U.S. 17. Detailed summaries of the Port of Brunswick terminal facilities and their access systems (vessel navigation, highway, rail, and pipeline) are presented in Appendix Table H.5; a brief summary of this information is presented in Table 6.3 below.

Table 6.3 Port of Brunswick Terminal Facilities

Name	Location	Major Commodities
GPA, Mayor's Point	Brunswick	Forest products; General and ro-ro cargo
GPA, Colonel's Island	Brunswick	Automobiles; Bulk farm products; Sand
GPA, Marine Port Terminals Inc.	Brunswick	Gypsum; Petroleum products; Forest products
Hercules, Inc.	Brunswick	Tree stumps
Georgia Power Co.	Brunswick	Fuel oil
Georgia Pacific Corp. Oil Wharf	Brunswick	Fuel oil
Georgia Pacific Corp. Wharf	Brunswick	(inactive)
LCP Chemicals – Georgia	Brunswick	Salt; Caustic liquid soda; General cargo

Sources: U.S. Army Corps of Engineers, Port Series #14; and GPA.

Waterborne commodity flows for the entire Port of Brunswick in calendar year 1998 are presented in detail in Appendix Table H.6. Data for the Port District as a whole – including both public and private terminals – was provided by the U.S. Army Corps of Engineers. Data on GPA facilities was provided by GPA, and is presented in detail in Appendix Table H.7. Total commodity flow through all private terminals in the Port of Savannah was estimated by taking the Port District total and subtracting the GPA facilities data. This information is summarized in Table 6.4 below.

Table 6.4 Port of Brunswick Waterborne Commodity Flows, CY 1998

Commodity	Short tons (Thousands)	Autos (Units)
Foreign Imports	1,380	
• Sand, gravel, rock, stone	589	
• Nonmetallic minerals	332	
• Vehicles and parts	167	
Foreign Exports	957	
• Pulp, waste paper	543	
• Paper products	161	
• Processed grain, animal feed	107	
Domestic Inbound	277	
• Petroleum products	276	
Domestic Outbound	1	
Total, all commodities	2,615	
Subtotal, GPA	2,507	163,064
Subtotal, private terminals	108	

Sources: U.S. Army Corps of Engineers, Waterborne Commerce of the United States, 1998; and Georgia Ports Authority.

Terminal traffic data (vessel activity, gate counts and inland distribution activity, where known) for Port of Brunswick terminals is presented in Appendix Table H.8.

Several significant improvements to enhance the efficient movement of vessels are planned in the Brunswick area. These planned improvements include the following:

- **Replacement of the Sidney Lanier Bridge over the Brunswick River** – The former bridge provided a vertical clearance of 139 feet and a horizontal clearance of 250 feet, which is inadequate for many current-generation vessels. The replacement bridge, which is planned for completion in year 2000, will provide a vertical clearance of 185 feet and a horizontal clearance of 1,000 feet to accommodate current and next-generation vessels.
- **Channel Deepening** – Increasing the project depth in the Brunswick River to a depth of 36 feet is under consideration.

■ 6.3 Ports of Bainbridge and Columbus

Description and Location

The Ports of Bainbridge and Columbus are barge ports on the Apalachicola-Chattahoochee-Flint (ACF) River inland waterway system, which links the interior of Georgia with the Gulf of Mexico and the Gulf Intracoastal Waterway. While they do not rank among the top 150 U.S. tonnage ports, as calculated by the U.S. Army Corps of Engineers, they play a role in serving the needs of Georgia's agricultural, forest products, construction and transportation industries by serving as an alternative to rail and truck transportation. Because both ports are part of the overall ACF system, they are considered together in this discussion.

The Port of Bainbridge is located on the Flint River at Bainbridge, in the southwest corner of Georgia (see Figure 6.4). The Flint River joins with the Chattahoochee River at Chattahoochee, Florida to form the Apalachicola River. The Port of Bainbridge handles liquid and dry bulk commodities moved on shallow-draft barges. The port includes a public terminal operated by the Georgia Ports Authority, along with several privately owned terminals.

The Port of Columbus is located on the Chattahoochee River at Columbus, on the western border of Georgia, nearly halfway between Florida and Tennessee (see Figure 6.5). Like the Port of Bainbridge, the Port of Columbus handles liquid and dry bulk commodities moved on shallow-draft barges. The port includes a public terminal operated by the Georgia Ports Authority, along with a privately owned terminal. Two other privately owned terminals are also located on the Chattahoochee River at Cedar Springs, downstream from Columbus near Bainbridge. These are included in the data for the Port of Columbus.

Figure 6.4 Port of Bainbridge

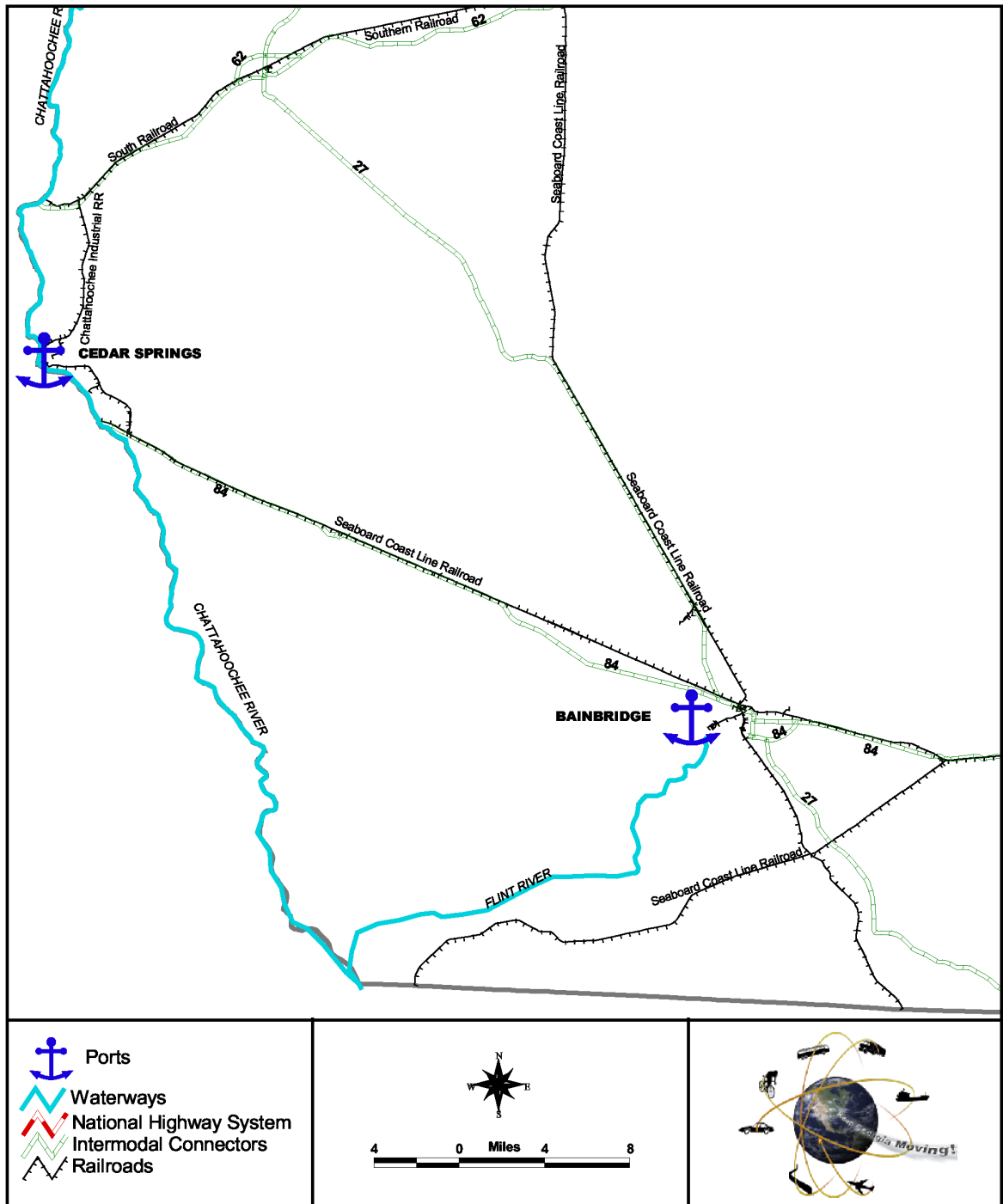
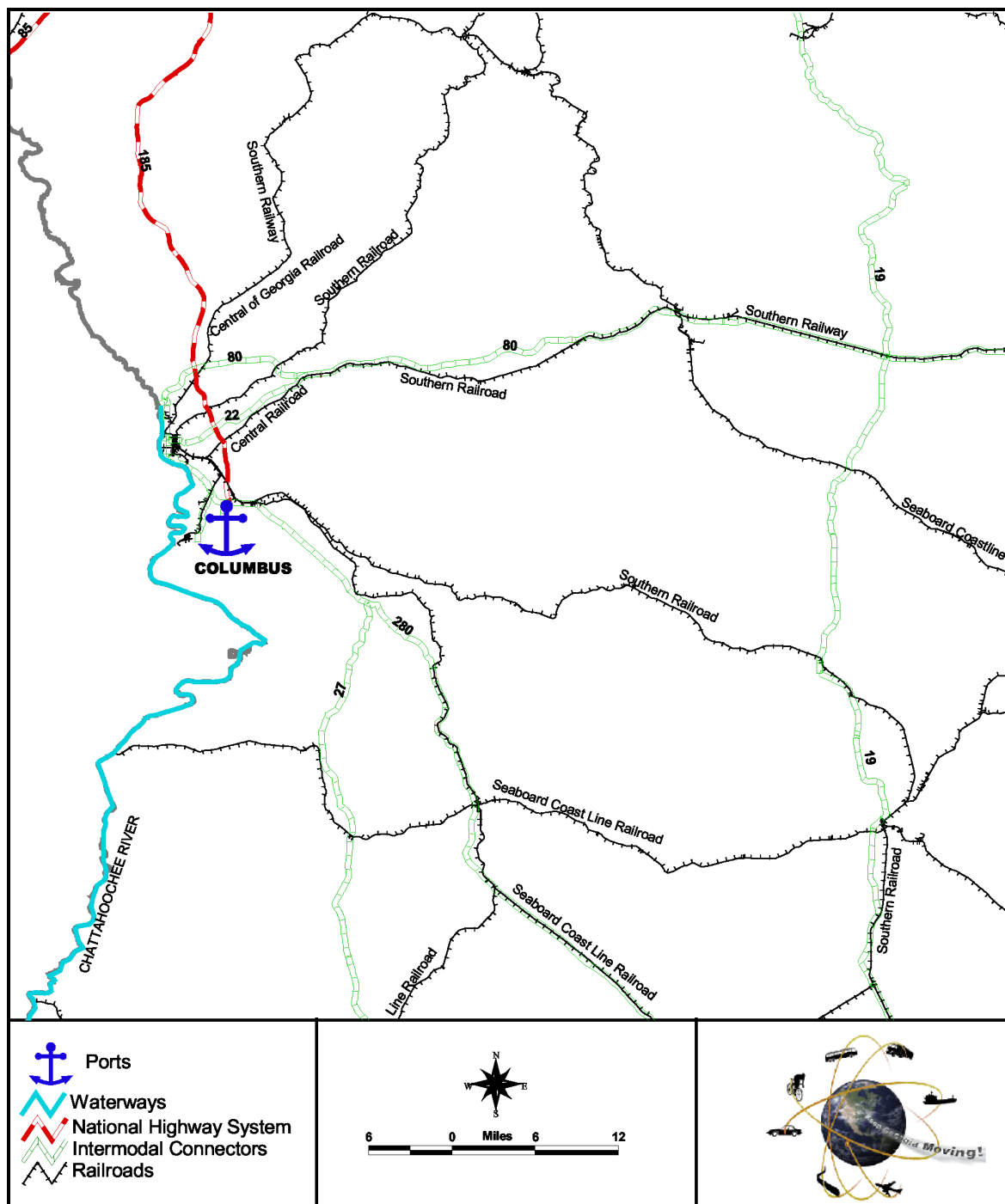


Figure 6.5 Port of Columbus



Ports of Bainbridge and Columbus Facilities, Operations, and Improvements

The Port of Bainbridge includes one GPA facility, the Bainbridge State Docks. It comprises 107 acres and 400 feet of berthing space, and which handles fertilizer, gypsum, and cottonseed and cypress mulch. The Port of Bainbridge also includes three privately owned terminals. These are principally manufacturing facilities that have the capability of shipping and receiving their own materials and products by vessel, as an alternative to truck and rail. Channel depths are nine feet within the Port of Bainbridge. Rail service is provided by CSX. Major truck access is via I-10, U.S. 27/84 and GA 253. Detailed summaries of the Port of Bainbridge terminal facilities and their access systems (vessel navigation, highway, rail, and pipeline) are presented in Appendix Table H.9; a brief summary of this information is presented in Table 6.5 below.

Table 6.5 Port of Bainbridge Terminal Facilities

Name	Location	Major Commodities
GPA, Bainbridge State Docks	Bainbridge	Dry bulk and liquid fertilizer; Gypsum; Cottonseed; Mulch
Ergon Inc.	Bainbridge	Liquid asphalt
Liquid Transfer Terminals, Inc.	Bainbridge	Liquid fertilizer
McKenzie Service Co.	Bainbridge	Liquid fertilizer

Sources: U.S. Army Corps of Engineers, Port Series #19; and GPA.

The Port of Columbus includes two GPA facilities. The Columbus Terminal Wharf provides 400 feet of berthing space and is currently unused. The ST Services Columbus Terminal Dock provides 200 feet of berthing space and is used for receipt of petroleum products. The Port of Columbus also includes two privately owned terminals (including those in Cedar Springs). Channel depths are nine feet within the Port of Columbus. Rail service is provided by the Georgia Southwestern (Columbus) and the Chattahoochee Industrial Railroad (cedar Springs). Major truck access is via I-185 and U.S. 27/280 (Columbus) and via U.S. 84 and GA 370 (Cedar Springs). Detailed summaries of the Port of Bainbridge terminal facilities and their access systems (vessel navigation, highway, rail, and pipeline) are presented in Appendix Table H.10; a brief summary is presented in Table 6.6 below.

Table 6.6 Port of Columbus Terminal Facilities

Name	Location	Major Commodities
GPA, Columbus Terminal Wharf	Columbus	(inactive)
GPA, ST Services Inc.	Columbus	Petroleum products
Georgia Tubing Co.	Cedar Springs	(inactive)
Georgia Pacific Corp.	Cedar Springs	(inactive)

Sources: U.S. Army Corps of Engineers, Port Series #19; and GPA.

Waterborne commodity flows for the entire ACF System in calendar year 1998 are presented in detail in Appendix Table H.11. Data for the Port District as a whole – including both public and private terminals – was provided by the U.S. Army Corps of Engineers. Data on GPA facilities was provided by GPA, and is presented in detail in Appendix Table H.12. Total commodity flow through public terminals in Alabama and all private terminals on the ACF system was estimated by taking the Port District total and subtracting the GPA facilities data. This information is summarized in Table 6.7 below.

Table 6.7 ACF System Ports Waterborne Commodity Flows, CY 1998

Commodity	Short tons (Thousands)
Domestic Inbound (upbound)	182
Fertilizers	91
Petroleum products	65
Domestic Outbound (downbound)	11
Grain	7
Oilseeds	3
Intra-ACF	250
Sand, gravel, rock, stone	250
Total, all commodities	443
Subtotal, GPA	65
Subtotal, private terminals	378

Sources: U.S. Army Corps of Engineers, Waterborne Commerce of the United States, 1998; and Georgia Ports Authority.

Terminal traffic data (vessel activity, gate counts and inland distribution activity, where known) for Port of Brunswick terminals is presented in Appendix Table H.13.

We are not aware of planned improvements in the Bainbridge or Columbus areas that would affect the ports, although the City of Columbus has suggested redeveloping part of the GPA terminal as a recreational boating marina.

■ 6.4 Key Planning Issues Affecting Georgia's Ports

National and International Trends in the Maritime Industry

Containerized Cargo

The most dramatic and visible changes are being seen in the container industry. Over the past 10 years, the South Atlantic ports have, as a group, grown their container traffic by almost 10 percent per year – a rate that compares with the Ports of Los Angeles and Long Beach. The South Atlantic now surpasses the North Atlantic as the dominant U.S. gateway to the Atlantic. Growth in trade with South America, Latin America, Europe and Asia (via Suez Canal vessel routings) is expected to grow strongly over the next several decades, and annual growth rates exceeding seven percent have been forecast for the South Atlantic ports as a group (Source: U.S. DOT, Impacts of Next-Generation Vessels on U.S. Port Infrastructure).

The key drivers of this dramatic growth in container trade are: first, overall growth in population, production and consumption; second, the increasing trend for U.S.-bound production to occur in China and other newly industrializing countries, where higher transport costs to market are more than offset by savings in production; third, the increasing trend for handling general cargo within international shipping containers, which reduces transportation costs and supports offshore production; and fourth, the increasing complexities of production chains, where parts and materials from all over the world must be integrated and managed. Long-term prospects for continuation of this trend appear very strong.

Paralleling this growth in trade, we have seen the rise of new logistics strategies. Vessel operators have entered into vessel sharing and container sharing agreements to ensure that their assets are as fully utilized in revenue business as possible. Ocean carriers have formed (and continue to reform) alliances for purposes of sharing terminals and consolidating their route structures. Finally, we have seen the largest carriers move towards “hub and spoke” services, where large vessels move rapidly between a few key hub ports, while distribution between larger and smaller ports is handled by smaller vessels. Maersk is probably the leader in this type of global strategy.

Hub and spoke logistics is made economically feasible by consolidation and by the utilization of extremely large containerships, known as “mega-ships.” Ten years ago, a very large containership might have handled about 4,400 TEUs with a draft of 42 feet; today, the largest containerships can handle nearly 8,000 TEUs with a draft of up to 50 feet. These ships are enormously expensive (\$100 million or more), but the operating economies of scale are sufficient to pay back their owners – provided they can keep the

ships full of revenue cargo. The hub and spoke operations are designed precisely to accomplish this, by bringing as much cargo as possible into the mega ship service routes.

On the U.S. west coast, two distinct hubs have emerged – Los Angeles/Long Beach and Seattle/Tacoma – with secondary hubs at Oakland and Vancouver. The reasons are fairly simple – these ports provide deep water required to bring in a fully loaded mega ship, strong local production and consumption markets, and excellent rail and highway connections to interior U.S. (or “hinterland”) markets. These terminals invested early on in advanced operating practices – “grounding” or stacking containers to maximize available storage areas in container yards, computerized gate interchange reports to minimize truck turn-around times and gate staffing, computerized storage planning systems, and the like.

On the U.S. east coast, the “hub port” situation has been far less settled. New York/New Jersey is a logical hub from the standpoint of production and consumption, but offers limited channel depths, poor inland access, and (for a variety of reasons) a reputation as a difficult place to do business. Baltimore offers deep channels but also requires an extra half-day or more to transit the Chesapeake, compared to its rival ports, and this difference in time means lost profits to ship operators. Virginia’s Hampton Roads ports offer deep channels and good inland rail connections, but not the kind of local market to be found in the Northeast Corridor. Charleston offers acceptable channels and inland connections, along with a good two-way flow goods, but again, not the kind of market to be found in the Northeast Corridor. The Florida ports – particularly Jacksonville, Fort Lauderdale and Miami – have grown fastest of all, principally due to booming trade with Latin America, which does not employ mega ships.

This leaves the Port of Savannah at an extremely interesting point at the junction of a variety of market forces. It offers adequate navigation channels, with the prospect of being able to offer up to 48 feet – enough to accommodate nearly any containership currently afloat. With the completion of the Mason ICTF, it will have the largest and most modern intermodal rail terminal on the U.S. East Coast. It has a good two-way market, a reputation for excellent management and efficient labor, a large and modern terminal facility that is still being expanded, a program of improving its rail and highway connections, and a well-deployed set of advanced information systems. Its only apparent limitation is the absence of a huge local market, comparable to Los Angeles or New York. Whether or not the Port of Savannah becomes “the” hub for the South Atlantic or simply one of several – which we consider to be more likely – it seems clear that it is poised to continue and build on its successful growth of the past 10 years.

Non-Containerized Cargo

Trends in this are not as dramatic, but still significant. Principal among them is the increasing trend to put materials that have been traditionally handled as break bulk – forest products, paper, even liquid and dry bulk – into containers. One reason is that containers are generally cheaper to handle; another is that if a terminal receives a full container and does not have anything good to put in it for the return trip (or “backhaul”), it will tend to get pretty creative about what it can put in a container. For example, one of the leading exports of the Port of Long Beach is containerized cotton; the Port of New York and New Jersey stuffs its backhaul containers with wastepaper. Savannah is

fortunate to have a variety of products for export, but the need to fill the backhaul is still a major influence on certain types of what are traditionally non-containerized commodities.

Of course, this does not mean we should look for our coal or fuel oil in containers anytime soon. Liquid and dry bulk commodities are still, for the most part, handled most economically in bulk. The net result is that there is a generally strong growth seen for non-containerized commodities (based on growth in production and consumption, increasingly complex production chains, “off-shoring” of production, etc.) – but these effects are somewhat less dramatic than for containers, and mitigated by the increasing use of containers to handle so-called “swing” commodities.

Inland Waterways

The Inland Waterway System, which for decades has been our nation’s principal highway to the interior for agricultural and other bulk commodities, is facing an unprecedented series of political and environmental challenges. Critics of maintaining and expanding the system argue that the benefit/cost ratios for all but its highest-traffic segments are unsupportable. Overall traffic on the system is relatively stagnant, showing only modest (one percent) projected annual growth. Environmental groups are successfully blocking the use of water resources to maintain navigable depths, while at the same time blocking efforts to dredge channels to minimize the need for the use of those water resources. Competition from railroads is a threat in certain markets. Defenders of the inland waterways would respond with two points – first, without the waterways, many U.S. shippers would be captive customers of the rail system, with the potential of predatory pricing before them; and second, barges are the least polluting, most energy-efficient means of inland transportation we have. But the future of many of our nation’s inland waterways – including the ACF system, of which the Ports of Bainbridge and Columbus are part – are facing serious questions.

Use of the Apalachicola-Chattahoochee-Flint River System

During its peak years in the 1970s, the ACF system carried almost 1.3 million tons annually. In 1998, this figure was about 500,000 tons. Yet interviews with industry professionals suggest there is a market on the ACF for nearly 2,000,000 tons annually. The problem, simply put, is that shippers cannot use the system because it is not reliable, and it is not reliable because it is not navigable much of the time.

This is due to two factors. First, the water resources necessary to maintain a nine-foot operating depth for barges are not being allocated. Following a series of drought years in the late 1980s, the U.S. Army Corps of Engineers instituted a “Navigation Window Policy” where it held back water from the system for several weeks, then released it to raise levels for a limited window of navigation. This practice – originally intended as temporary – has become standard. In the late 1980s, the State of Georgia requested that the Corps provide more water to the system, but the State of Alabama sued the Corps. The result was a comprehensive study and an ongoing structure for negotiation of a water compact between the states of Georgia, Florida, and Alabama, which has not yet yielded a consensus. In the meantime, pressures to use Lake Lanier and other potential water

resources for recreational and municipal purposes – rather than navigation – continue to mount, and some feel that the ACF system should be de-authorized for navigation altogether.

The second factor is maintenance dredging. The system accumulates sand and other materials that must be removed periodically. However, the system's disposal sites are full. The Corps had been employing a system of "mechanical distribution" in which materials are returned to the waterway in a manner that allows them to flow downstream with minimal reaccumulation, but the State of Florida's Department of Environmental Protection has challenged this practice. A proposal by the Corps to dredge the Chattahoochee and use a pipeline to convey the materials to a site several miles from the system has been met with resistance by the State of Florida.

Combined with continuing drought conditions, the result has been that navigation windows are increasingly restricted on the ACF system. This year, the system was open for a series of two-week periods between February and April. Operations are currently suspended, pending rain.

The impact of these conditions is reflected in declining tonnages for the Ports of Bainbridge and Columbus, and this trend is likely to continue unless and until the issues of water allocation and dredged materials management are resolved.

Atlantic Intracoastal Waterway Opportunities and Constraints

Since 1989, the Atlantic Intracoastal Waterway (AIWW) between Norfolk and the St. Johns River has seen a decline in traffic of almost 50 percent – comparable to the decline in traffic on the ACF system. This AIWW segment handles gasoline and fuel oil moving primarily in the upbound direction, and very little else. Future prospects for increasing AIWW traffic are expected to be limited to barge commodities, due to the 12-foot navigation channel.

There has been some discussion of using barges for short-sea movement of containers (as an alternative to truck movements) at several Atlantic coast ports. The market for such services would depend on finding an appropriate operator who could market it profitably. Such a service, were it to materialize, would not handle high volumes, but could be a useful component of the overall freight transportation system.

Potential for Inland Distribution via Pipeline

The Port of Savannah is served by a Liquid Natural Gas (LNG) pipeline system, but cannot move other products inland via pipeline. To the best of our knowledge, the Ports of Brunswick, Bainbridge and Columbus are not served by inland distribution pipelines. Such pipelines could potentially be used to transport petroleum, petroleum products and/or other liquid bulk commodities between the ports and inland centers, but the appropriate producers, consumers and routings have yet to be specified – as have the relative costs and impacts compared to the system in place today.

7.0 Trucking

Trucking is the principal means of goods movement in the United States, tying commercial vehicle operations closely to the nation's economy. The southeastern U.S. in particular has been one of the fastest growing parts of the nation. A low cost structure, ample labor force, and favorable industry mix have contributed to the growth of the regional economy. A fast-growing economy and rising freight demand in Georgia have led to growth in most aspects of commercial trucking, resulting in increases in the economic value of trucking and in concerns for the ability of the highway and road infrastructure to meet commercial vehicle demands.

Trucks move over 80 percent of the state's commodities, and over two-thirds of its communities rely solely on trucking to deliver their goods. Trucks are major users of the state's highways and roadways. Georgia has a very extensive Interstate highway network which serves as the major truck route system for both intrastate and interstate freight movement. In the Southeast U.S., Atlanta is the dominant freight center and the hub for regional truck traffic.

Because trucking dominates freight transportation in the state, productivity of the trucking industry impacts that of nearly every other industry. Moreover, the motor carrier industry is, by itself, an important component of the state's economy. Increases in efficiency and cost effectiveness that carriers realize through various programs, services, and use of technologies will favorably impact other industries, employment, and the economy.

This section describes characteristics of the trucking industry in Georgia; characterizes freight traffic in the state; reviews the regulatory environment and how it affects commercial vehicle operations; identifies trucking issues from the perspectives of both the public and private sectors; and discusses programs for facilitating freight movement, reducing administrative costs, and improving highway safety.

■ 7.1 Georgia Trucking Industry

Approximately 360,000 interstate motor carriers of goods operate in the U.S. The number of intrastate carriers of goods is difficult to determine, but the total number of interstate and intrastate carriers may be as high as one million. About 5,000 motor carriers are registered in Georgia for interstate fuel tax licenses; close to the same number of carriers register their interstate operating authority in the state. In 1997, about 500 intrastate carriers were registered with the Public Service Commission. Some 950 interstate carriers

operating in Georgia transport commodities that are exempt from federal economic regulation.¹

Carriers have fleets that vary in size from one vehicle to hundreds of vehicles. Most trucks operate in small fleets. An owner-operator with one truck faces different business challenges than large fleets like United Parcel Service, one of the state's major companies. It is estimated that 170,000 trucks operate in the state (1997), an increase of 15 percent from 1992, when 147,500 trucks operated in Georgia. Compared to the national average, Georgia has a higher proportion of small fleets (one to five vehicles), 38 percent versus 42 percent, respectively, and a lower proportion of large fleets (more than 100 vehicles), 19.3 percent versus 16.5 percent, respectively. The leading major use of trucks is construction (19.5 percent), followed by wholesale and retail trade (17.7 percent), utilities and service (14.1 percent), and for-hire transportation (12.5 percent). Agriculture, which nationally accounts for slightly over 15 percent of trucks, demands only 9.6 percent of trucks in the state, down from 13.5 percent in 1992.²

Fleet operations vary in the geographic scope of their operation, ranging from local to national. Trucking in Georgia is increasingly regional and national in scope; the share of trucks operating in local markets has decreased by several percentage points since 1992. The same trend is evident on a national scale. In Georgia today, under 51 percent of trucks operate locally, within 50 miles of their home base, compared to the national average of 52.5 percent. Between 1992 and 1997, the percentage of trucks in the state that operate in a regional market of 50 to 200 miles increased from 20 to 25 percent; nationwide, slightly less than 24 percent of trucks operate regionally, up from 20.3 percent. The percentage of trucks that operate in a long-haul, national market of more than 200 miles remained steady at 12.6 percent from 1992 to 1997. Nationally, 15 percent of trucks have long-range operations.³

Geographic range of operation affects the number of jurisdictions and highway systems through which a truck passes, as well as the complexity of the carrier's operations. Scheduling, routing, and credentials are vastly different for a local urban carrier as opposed to trucks traveling through multiple states in a region or from coast to coast. In addition, roadway conditions vary considerably. Operating range, as well as fleet size and other characteristics such as routing variability and time sensitivity of deliveries, strongly influence the needs of trucking companies for traffic management, congestion mitigation, regulatory process reengineering, and other programs and services that potentially reduce carrier operating costs and increase productivity.

¹Georgia carrier numbers are from *ITS/CVO Strategic and Business Plan for the State of Georgia*, December 1997 (revised May 1998).

²U.S. Department of Commerce, Bureau of the Census, *1997 Economic Census, 1997 Vehicle Inventory and Use Survey Georgia* and *1997 Vehicle Inventory and Use Survey United States*. Truck statistics from the *Vehicle Inventory and Use Survey* exclude pickups, panels, minivans, sport utilities, and station wagons.

³U.S. Department of Commerce, Bureau of the Census, *1997 Economic Census, 1997 Vehicle Inventory and Use Survey Georgia* and *1997 Vehicle Inventory and Use Survey United States*.

■ 7.2 Freight Traffic

Commodities

In 1997, Georgia produced \$224.4 billion and 373.5 million tons of shipments. Georgia trucks (i.e., for hire and private) accounted for \$177.9 billion, or 79.3 percent, of total shipments by value and 331.6 million tons, or 88.8 percent, by weight. Trucking's share in 1997 of the value of total shipments was somewhat lower than the 84 percent recorded for 1993 while its share of tonnage increased from 83 percent in 1993.⁴

Most shipments that originate in Georgia travel less than 250 miles and a substantial amount of shipped goods travel less than 50 miles. In 1997, 30 percent of the commodities by value and 65 percent of the commodities by weight traveled less than 50 miles. At the same time, 57 percent by value and 88 percent by weight went distances less than 250 miles. These numbers indicate that trucking is vital both for the local movement of commodities and for exporting materials and products beyond the state.

Shipment characteristics by destinations show this to be true. Slightly over 38 percent of the value of shipments originating in Georgia remained in the state, as did 76 percent of tons shipped. For shipments measured in value, the leading destinations in 1997 were the neighboring states of Florida (8.8 percent), South Carolina (five percent), North Carolina and Tennessee (both 4.3 percent), and Alabama (four percent). California (3.7 percent) and Texas (3.6 percent) also were important destinations. Florida, North and South Carolina, Tennessee, and Alabama accounted for the largest portion of goods exported from Georgia measured in tons.

For commodities originating in the state, the major goods hauled when ranked by value are textiles and leather (14 percent); food products (10 percent); motorized and other vehicles, including parts (nine percent); mixed freight (5.8 percent); and electronic and other electrical equipment and components (5.6 percent). When ranked by weight, the major goods hauled are gravel and crushed stone (34.5 percent); gasoline and aviation turbine fuel (12.5 percent); nonmetallic mineral products (7.8 percent); and wood products (6.8 percent).

An additional 149.4 million tons of goods valued at \$156.9 billion were brought into Georgia from other states. These shipments – by value – came primarily from North and South Carolina, California, Tennessee, Florida, Alabama, Texas, Ohio, Illinois, Michigan, and New Jersey. Value of shipments from these states ranges from \$10 to \$11 billion (Carolinas, California, Tennessee) to \$6.5 billion (Michigan and New Jersey). These figures show the importance of the state, especially Atlanta, as a regional distribution center for national and regional carriers.

⁴U.S Department of Commerce, Bureau of the Census, *1997 Economic Census, 1997 Commodity Flow Survey Georgia*. All data on commodities and shipments in this section are from this source.

Atlanta is at the end of primary truck “lanes” from the Midwest that bring goods from shippers facilities in Chicago, Detroit, and Cleveland – areas of production – to warehouses and other facilities in Atlanta and its outskirts, for delivery to other distribution centers.

Distribution of Trucking Activity

Freight centers include the location of major factories, warehouses, airports, ports, and other facilities that generate or receive significant amounts of freight for movement by trucks. These centers essentially represent major origins and destinations of freight carried by trucks. Trucking activity also organizes along truck routes which represent the distribution of truck traffic along Interstate and major highways. Nationally, truck traffic and freight generation centers concentrate in the eastern U.S. and along the Pacific coast. These also are areas of high population density, economic activity, and extensive highway linkages with high truck volumes.

Freight centers in the Southeast U.S. are located on the region’s extensive Interstate highway network. Atlanta is the premier center. Other centers include distribution centers such as Memphis; industrial cities such as Charlotte; and ports such as Charleston, Jacksonville, and Mobile. Central and southern Florida also have freight centers that support the considerable consumer market serving tourists and retirees.

In Georgia, freight centers follow the pattern of the Interstate network. Savannah, an important port served by Interstates 95 and 16; Macon, on Interstates 75 and 16; Augusta, on Interstate 20; Valdosta, on Interstate 75; and the port of Brunswick, on Interstate 95; are key freight centers in the state. In addition, concentrations of freight-intensive industries such as construction, manufacturing, and wholesale and retail trade establishments also are found in Rome, Columbus, and Albany.

Georgia’s major truck routes are its Interstate highways. Interstate 95 traverses the whole of the eastern seaboard, and in the Southeast connects the Carolinas and coastal Georgia and Florida; Interstate 85 runs from southern Virginia to Raleigh to Atlanta; Interstate 75 starts at Sault Ste. Marie and runs south through Knoxville, Atlanta, and Tampa. East-west routes include Interstate 20 that links Augusta and Atlanta with Birmingham and ends in western Texas, and Interstate 16 between Savannah and Macon. Congestion is significant in Atlanta and moderate, and growing, in most other parts of the state.

As trucks are major users of the highway system, they contribute substantially to road maintenance and capacity challenges. Overall, trucks, along with buses, account for over a quarter of the vehicle miles traveled in the U.S. Medium and heavy trucks account for about eight percent of vehicle miles. Safety is a major concern regarding commercial truck operations because of the increasing interaction of trucks with other vehicular traffic, the size of trucks relative to other motor vehicles, and the hazardous cargoes often carried by trucks.

Finding ways to mitigate the impact of trucks on the highway infrastructure, on traffic movement and mobility, and on the safety of the traveling public, while the numbers of trucks and truck traffic steadily increase, continues to challenge planners and public

officials. As we will learn later, public agencies have developed general and specialized programs and services to help protect the roadways, ease congestion, and improve the safety of commercial vehicle operations. Private industry has played an important role – although the level of activity varies from state to state – in encouraging and promoting the deployment of many of these programs.

■ 7.3 Regulatory Environment

Public sector regulation has tremendous impact on the business operations of trucking companies. Regulation impacts operating costs, delivery schedules, driver assignments, routing and other use of highways and roads. The major public sector regulatory functions include registration, fuel tax administration, size and weight, safety, and tolls. These regulatory requirements apply in some manner to nearly all commercial vehicles and their operators. In addition, there are other requirements that apply to subsets of the total commercial vehicle population, including hazardous materials permitting and routing and agricultural restrictions and permitting.

Safety and Enforcement

Vehicle size and weight restrictions and permitting are critical for effectively managing the roadway and highway systems. Large trucks must be able to clear bridges and other overpasses, or be able to pass on narrow roads and bridges. Overweight vehicles may cause pavements and bridges to fail prematurely through overstress. They also may pose safety hazards and cause congestion because of their lack of acceleration, poor maneuverability, and reduced braking capabilities.

Enforcement of size and weight regulations is carried out at fixed weigh stations and by mobile units using portable roadside equipment. Protection of the highway infrastructure is a paramount concern of the state Department of Transportation (DOT), and effective enforcement of weight laws is an essential factor. Georgia typically has been among the leading states in enforcement weighings, as well as size and weight violations that are issued. The state also issues large numbers of oversize and overweight (OS/OW) permits. In recent years, weigh-in-motion (WIM) technologies have emerged as an alternative to static scales. WIM equipment dynamically weighs vehicles at up to mainline speeds, effectively sorting the traffic stream and increasing weighing capacity. Georgia was an early deployer of WIM equipment at its weigh stations (these were low-speed WIMs on entrance ramps) and continues to be a leader in using WIM for enforcement weighings. Use of WIM and other weight enforcement practices minimizes congestion delays for commercial operators, and Georgia and other states are increasingly moving to these activities.

Safety assurance is a primary component of state and federal enforcement programs. It includes inspections of vehicles and drivers at the roadside and reviews of a carrier's operations at the office. These programs are supported by increasingly sophisticated

information systems which encourage targeting of high safety risk operators for inspections and reviews.

Georgia Public Service Commission (PSC) conducted 35,500 safety inspections in 1997. Of this number, approximately 23 percent of the vehicles inspected were placed out-of-service (OOS) due to serious violations. Nationwide, the vehicle OOS rate was about 21 percent. The OOS rate has been trending downward in the past few years; Georgia's rate fell 50 percent between 1989 and 1996.⁵ Carrier compliance reviews, also called safety audits, are conducted by federal field staff and state staff under federal safety grants. In 1997, Georgia PSC conducted 54 carrier reviews; federal officers conducted several times that many. These reviews are onsite investigations of carrier operations, such as driver's hours of service, vehicle maintenance and inspections, driver qualifications, financial responsibility, and accidents. Safety violations may be identified, with fines levied and carriers required to correct problems within 45 days.⁶

Enforcement of size and weight and safety regulations has changed dramatically in the last decade with the acquisition of new technologies and capabilities. This movement has been spurred on by a number of factors, including a need for better information to enable enforcement programs to focus on the high-risk carriers based on historical safety performance information; need for greater capacity as truck traffic continues to grow and congestion increases at weigh stations; enormous advancements in technology – electronics, sensors, communication devices, computer software, hardware, and computerized information systems; and need for more cost-effective deployment of resources stemming from scarce human and financial resources and a growing customer base.

Safety training programs oriented toward smaller carriers have become increasingly important as large numbers of small fleets enter the trucking arena. The impact of an OOS order on one of these small operators is to effectively shut down business.

Credentials Administration

Motor carriers need various credentials and permits in order to operate. In Georgia, carrier registration/operating authority, vehicle registration for interstate and intrastate carriers, vehicle titles, fuel tax licenses and quarterly returns, OS/OW permits, hazardous materials permits, and commercial driver licenses are the primary credentials.

Submitting requests and obtaining credentials require the motor carrier to interact with a number of state agencies: PSC for carrier registration/operating authority and hazardous materials permits (as well as enforcement of relevant laws); Department of Revenue (DOR) for vehicle registration, vehicle title records, and fuel taxation; DOT for OS/OW permits and routing (including enforcement of OS/OW as well as vehicle registration and

⁵ ATA Foundation, February 1998.

⁶ PSC numbers are from *ITS/CVO Strategic and Business Plan for the State of Georgia*, December 1997 (revised May 1998).

fuel taxation at the roadside); and Department of Public Safety (DPS) for commercial driver licenses. Accident investigation and reporting is conducted by DPS; this represents additional interaction between carrier and agency.

Obtaining credentials from multiple agencies is a considerable burden for many carriers, especially fleets with multiple vehicles. Completion of hard copy forms, manual processing, payment by check, and mailing of paper credentials often add up to long waiting times for carriers to receive credentials and permits. In most cases, the credentialing processes operate in isolation from one another, and from other programs such as safety and insurance. Carriers frequently submit duplicate information to multiple agencies because agencies do not share data and processes are not coordinated.

Automation of manual processes, electronic credentialing and permitting, electronic funds transfer, interagency as well as interstate data exchange, are transforming the way states conduct business with motor carriers. States that have deployed new capabilities are anticipating that they will be cost-effective and improve efficiency, and provide higher levels of customer service. The potential benefits to motor carriers include reduced administrative costs and delays and ability to get trucks on the road faster.

■ 7.4 Trucking Issues

Problems for trucking companies have been touched upon in earlier sections of this chapter. They include the following primary issues:

- Urban congestion is a major problem for trucking operations because of the travel delay it causes. The impact on delivery schedules, in particular, just-in-time (JIT) delivery requirements, is significant. Planning for delays and lower speeds is a part of a carrier's business practices, but it increases operating costs and lowers profit margins. Missing a delivery window outright frequently results in fines on the carrier. Congestion is most prevalent in metropolitan and urban areas.
- Weigh station stops and delays create a burden for the commercial operator. Many shippers and receivers have strict pickup and delivery schedules that must be met, and more than a few minutes spent waiting to be weighed may be costly to drivers with time-sensitive cargo or hours-of-service constraints. Each minute spent at a weigh station directly impacts a motor carrier's costs and profitability. Congestion and backups at weigh stations also can create safety problems when trucks must slow down abruptly in traffic to join a queue, and queues spilling onto the highway are a major hazard.
- Credentials processing is burdensome, and costly, for carriers when functions are fragmented among multiple agencies that do not exchange data and processing is largely or wholly manual, as is the case in Georgia. Information submitted by hard copy also is an issue for many carriers, especially carriers with larger-sized fleets. Given the state's healthy economy and rising freight demand that attract new carriers,

which require greater assistance obtaining registration and other credentials, streamlining and automating credentialing processes takes on added importance.

The state's responsibilities regarding commercial vehicles include protection of the infrastructure and assuring public safety. In this regard, overweight trucks and safety of commercial vehicle operations are major concerns.

- The objective of size and weight enforcement is to locate the noncompliant (overweight) vehicles and take them off the highway. Truck weight regulations are enforced to safeguard the pavement and protect the public's investment in the highway system. Weighings serve both to identify and remove, and deter operation of overweight, non-permitted trucks. Weighing capacity of fixed facilities is increasingly strained as truck traffic increases, but by increasing the level of automation (such as the use of WIM) the facilities can be operated at greater capacities. This automation also will benefit carriers as they will experience fewer delays at these facilities.
- Safety assurance has become more challenging as the number of trucks grows. Current strategies focus on identifying carriers, vehicles, and drivers that are most at risk of endangering public safety. This is accomplished through access to data – preferably near real-time or real-time – on safety performance as well as information on the driver's record. Portable computers at the roadside, quick communication linkages, algorithms, easily retrievable data formats, comprehensive data bases, electronic data sharing, and other advanced capabilities have been developed to support these strategies. Safety training programs also are important for establishing, and reinforcing, sound safety management practices.

■ 7.5 Programs and Services

Georgia has deployed advanced technology applications and programs for traffic management and control that facilitate freight movement, help reduce truck operating costs, and improve safety on roadways and highways. The state also is planning the deployment of a major commercial vehicle operations effort, the Commercial Vehicle Operations Systems and Networks (CVISN), a systems architecture designed to support the automation of truck credentialing, permitting, and enforcement activities, and improve safety and customer service as well as reduce the cost of doing business for both carriers and states.⁷

⁷GDOT deployments are drawn from the Internet site www.georgianavigator.com, July 12, 2000, and ITS/CVO *Strategic and Business Plan for the State of Georgia*, December 1997 (revised May 1998). Georgia's CVISN objectives are drawn from CVISN Program Plan/Program Presentation, March 31, 2000, and Georgia's Top-Level CVISN Design Documentation/Presentation, March 31, 2000.

GDOT deployments with ramifications for trucking operations include the following:

- In partnership with the city of Atlanta and Atlanta-area counties, GDOT operates an extensive Advanced Traffic Management System (ATMS) that consists of a Transportation Management Center (TMC) operated by GDOT and Traffic Control Centers (TCCs) operated by the local jurisdictions. This system controls traffic, manages incidents, and provides traffic information over an area of more than 220 freeway miles plus arterial road systems. Regional TMCs are planned, and several other cities, including Savannah, Athens, and Macon, will also establish TCCs.
- GDOT also operates a statewide Advanced Traveler Information System (ATIS) of kiosks, cable television, and World Wide Web site, that provide up-to-the-minute information on traffic congestion, weather, special events, and other traveler information.
- GDOT intends to implement roadside electronic clearance technology (WIM-based) at all state weigh stations within several years, providing clearance (bypass) to eligible trucks. Interstate 75 weigh stations all have already been equipped with electronic clearance technology.
- GDOT's AVI Permitting Project is adding an electronic permitting function to the electronic clearance systems at weigh stations, and will install readers at the port of Savannah to identify exiting trucks having electronic permits.

Commercial Vehicle Information Systems and Networks

CVISN is a national initiative coordinated by the Federal Motor Carrier Safety Administration and the Federal Highway Administration. Its goal is a nationwide network of information systems and communications linkages that support commercial vehicle operations. Existing and newly designed systems will be able to exchange information through the use of standards and available communications infrastructure. Within this framework, government agencies, motor carriers, and other parties will share information and conduct business transactions electronically.

Some core elements, such as national safety information data bases, are developed and/or upgraded under the auspices of the federal agencies; other systems, such as interstate vehicle registration and fuel taxation clearinghouses, are supported by state agreements. Motor carriers participate in various ways, including membership on state steering committees, being pilot or test carriers for newly deployed electronic credentialing systems, enrolling in electronic clearance programs, and developing/reengineering fleet management systems to communicate with state processing systems.

States, however, are the largest contributors in terms of deployment of resources – staff that are assigned to the state CVISN program and individual projects develop plans, systems architectures, management frameworks, and budgets; these staff attend training sessions and workshops; the state provides the lion's share of funding; and it deploys the new systems, technologies, and services that are called CVISN.

Georgia's requirements include the ability for carriers, agencies, and commercial parties to electronically interact for credentialing, taxation, and enforcement purposes. Interstate, intrastate, and exempt carriers are included within these functions. The state's program objectives include the following:

- Focus government resources on high-risk operators;
- Provide carriers with better information to manage their safety programs;
- Allow the customer to file and pay credentials in one place (physical location or electronically);
- Provide electronic credentialing for carriers at a single site;
- Decrease processing time for all processes;
- Connect IRP (International Registration Plan, an interstate agreement for vehicle registration) and IFTA (International Fuel Tax Agreement, an interstate agreement for fuel taxation) systems for cross-checks;
- Reengineer business processes;
- All permanent weigh stations perform electronic clearance functions;
- Enhance electronic clearance to include OS/OW loads; and
- Improve flow of goods and services.

8.0 ITS Programs

Intelligent Transportation Systems (ITS) represents the application of advanced technology to improve the efficiency of the transportation infrastructure. It offers the promise of reducing congestion and environmental impacts in a cost-effective manner as an alternative to major roadway expansions.

Georgia's integrated ITS program, known as NAVIGATOR, is currently deployed in Metropolitan Atlanta, and is designed to minimize freeway and arterial congestion and to improve travel safety. GDOT has prepared a 20-year Strategic Plan to deploy ITS programs through Georgia.

■ 8.1 Existing NAVIGATOR Program

NAVIGATOR is designed to collect information about current conditions on the transportation system, to process that information into a manageable format, to develop responses to incidents affecting the roadway system, and to inform travelers of their best travel options. The operational program is located at the Transportation Management Center (TMC) in Atlanta, housed together with the Georgia State Patrol (GSP) and the Georgia Emergency Management Agency. The TMC is connected to Transportation Control Centers (TCCs) of the counties of Clayton, Cobb, DeKalb, Fulton, and Gwinnett, the cities of Athens, Atlanta, and Savannah, and the Metropolitan Atlanta Regional Transportation Authority (MARTA). The high degree of inter-agency cooperation in the sharing of information and the formulation of responses is a major achievement of the NAVIGATOR program. The traffic management network currently covers 2,240 miles of freeways and 150 miles of arterial roadways.

Detection and Monitoring

The provision of real-time information on congestion, incidents and road conditions is critical to the success of the NAVIGATOR program. That information is collected through a number of techniques. The primary data collection process is through a video monitoring and detection system. The video system includes:

- 67 full-color cameras with pan, zoom and tilt capabilities provide complete visual coverage along Interstates 75 and 85;
- Over 300 black and white video detection cameras capable of gathering information on average speed traffic volumes and vehicle classification;
- 22 slow-scan cameras to provide operators at the TMC with images of traffic patterns;

- A gyroscopic camera mounted on a helicopter providing live video within a 50-mile radius of Atlanta; and
- More than 100 Cameras operated by the area TCCs.

The video cameras all provide real-time images that allow for the early detection and verification of incidents.

Other traffic condition information is collected through ramp meters, which provide information on traffic volumes entering the freeways, and GDOT radar stations, which provide real time traffic speeds.

Information concerning incidents is also available through a number of other sources, including:

- *DOT (*368), a free cellular phone service sponsored by the Georgia Department of Transportation, BellSouth Mobility and AirTouch Cellular. Motorists who see or are involved in an accident or traffic congestion can call and report these incidents from a cellular phone 24 hours a day;
- The Highway Emergency Response Operators (HEROs) on incidents detected during the course of their patrols;
- Coordination with Atlanta's Regional Enhanced 911 system;
- Transit route conditions and parking availability at stations from the MARTA TCC; and
- Communications with the GSP radio dispatch facilities.

Incident Response

One of the primary goals of NAVIGATOR's Incident Management Program is to safely and quickly remove incidents from the travel lanes, and to eliminate traffic tie-ups and restore the normal flow of traffic. The components of the Incident Management System are the HERO patrols, the Motor Vehicle Emergency Response Team (MoVER), and Accident Investigation Sites.

The HERO program consists of 34 vans that patrol 13 routes within metropolitan Atlanta on weekdays from 5:30 a.m. to 9:00 p.m. Their primary responsibility is to provide for rapid response to incidents, to minimize traffic disruptions at highway incidents by initiating measures that reduce congestion and delays, and to provide support to law enforcement, emergency and other agencies responding to incidents. While not responding to incidents the operators also provide assistance to stranded motorists who might have minor mechanical problems such as flat tires or weak batteries. The operators also provide fuel, coolant, road and travel information, use of a courtesy cellular phone and transportation to a safe area. The assistance to motorists reduces traffic disruptions and safety hazards caused by stranded motorists.

The MoVER team was created to enhance traffic operations at the scene of an incident. The team's members are experienced in traffic operations, maintenance operations, incident assessment, communications protocol and clearance procedures. MoVER team members are drawn from upper level Georgia DOT management and department heads.

Accident Investigation Sites provide safe areas for motorists involved in traffic accidents without injuries to exchange information, and wait for police investigation outside of the travel lanes on freeways. This minimizes the disruption to traffic and provides a safe haven for the affected motorists and police. More than 75 sites consisting of 100-foot-long shoulder extensions have been constructed along Interstates 20, 75, 85 and 285.

If an incident is severe enough and its duration is expected to be long enough, the TMC and TCC will develop information to be provided to travelers concerning alternative routes and travel options. The satellite TCCs are also equipped to manage traffic signals on arterials within their jurisdiction to reallocate green phase times in response to the recommended change in travel patterns.

Traveler Information

The Navigator program relies on several techniques to provide information to travelers concerning current traffic conditions and to allow for informed transportation decisions. Those techniques include Changeable Message Signs (CMS), Travel Information Kiosks, and the NAVIGATOR web site.

More than 45 CMSs are located at critical points along Interstates 20, 75, 85 and Georgia 400. These CMSs display Travel Time and Incident messages. Travel Time messages inform the motorist of the expected time to reach certain major interchanges. The travel times are based on the volume and speed information collected as part of the video monitoring and detection program. Incident messages inform travelers about delays resulting from disabled vehicles, accidents or construction. The message will provide information concerning the nature of the incident and the travel lane or lanes it is affecting.

Travel time and incident information is also available through the NAVIGATOR traffic web page, <http://www2.georgianavigator.com/traffic/>. The traffic page displays, for computers connected to the Internet, information concerning incidents, roadway construction, travel speeds, video cameras of traffic conditions, Changeable Message Signs, and travel times. Maps are available showing current travel speeds along the freeways, as well as the location of construction, incidents, CMS and video cameras. Information concerning incidents, construction and travel times is available in text lists. Live video feeds are available from each of the traffic cameras. The current display of the message on each CMS is also available.

Similar information is also available at 110 Travel Information Kiosks located around the state at highway rest areas, government buildings and transportation hubs. The kiosks include touch-screen displays, which, in addition to the traffic information, also display MARTA schedules, weather, airline schedules and other traveler information.

■ 8.2 ITS Strategic Plan

The Georgia DOT has adopted a 20-Year ITS Strategic Deployment Plan¹ that indicates how ITS technology and programs are to be expanded through Georgia and will be compatible with the National ITS Architecture standards. The Atlanta-based TMC will remain the primary center responsible for the geographic area in and around Atlanta and will become the statewide coordination center for transportation management across TCC geographic boundaries. TCCs will be established with primary multimodal responsibility within specific geographic regions. Reliable high-speed, high-bandwidth communications, primarily fiber optic cable, will be installed along Interstate highways, freeways, controlled access facilities and other major arterials to connect surveillance equipment to the TCCs and to connect the TCCs to the TMC. The program will be expanded through the involvement of local agencies, other state agencies and authorities, and private partnerships to support effective operations and maintenance of the totally interactive, multi-agency, multi-purpose, integrated system.

The Strategic Plan is organized in five-year phases. The first five-year deployment phase calls for expansion of the TCCs to Macon, Gainesville, Augusta, Albany and Dalton as well as expansion and coordination with centers for Savannah, MARTA, Hartsfield Airport, the Georgia Emergency Management Agency, the Georgia State Patrol, Georgia 400 Toll Plaza, Atlanta Regional 911 Center, regional railroads, the Port of Savannah, as well as increased monitoring of the HOV network. It calls for expansion of the existing traveler information system by expanding the CMS along I-285 and portions of I-75 and I-85 outside of I-285 as well as to new locations in Savannah, Augusta, Albany, Macon, Gainesville, and Dalton, by developing a cable TV channel to disseminate information, expanding the kiosks locations, and providing information to the Public Radio Broadcasting System. It calls for expanding the fiberoptic cable and camera coverage to locations with new TCCs, the installation of smoke/fog and weather detectors at strategic locations, and the expansion of the ramp metering and radar station system. It calls for expansion of the patrol area of the HERO vehicles and the provision of Automatic Vehicle Locators in the HERO vehicles to pinpoint incident locations and to allow monitoring of travel times during patrol periods. The plan calls for the upgrade of traffic control signals to allow for remote operation and to provide for emergency vehicle preemption and transit vehicle priority.

The second five-year phase calls for the establishment of TCCs in Athens, Thomaston, Cordelle, Brunswick, Cartersville and Valdosta, the expansion to Transit Control Centers in Savannah, Augusta, Athens, Columbus, and Macon., and the expansion to other regional airports, 911 centers, and railroads within the areas served by TCCs and to the Port of Brunswick. The surveillance, communication, incident response and information systems would expand to the areas served by the new control centers. Information would also be provided to travelers concerning the availability of Travel Demand Management Programs such as carpooling.

¹ A 20-Year Strategic Plan For Intelligent Transportation System Deployment in Georgia For 1999-2019, Georgia Department of Transportation, Office of Traffic Operations, Transportation Management Center, June 8, 1999.

The third five-year phase calls for the establishment of TCCs in Covington, Dublin, LaGrange, and Tifton, and the expansion to Transit Control Centers, other regional airports, 911 centers, and railroads within the areas served by TCCs. The surveillance, communication, incident response and information systems would expand to the areas served by the new control centers.

The last five-year phase calls for the establishment of TCCs in Tennille, Americus, Rome, Jesup, Statesboro, Carrollton, and the expansion to Transit Control Centers, other regional airports, 911 centers, and railroads within the areas served by TCCs. The surveillance, communication, incident response and information systems would expand to the areas served by the new control centers.

9.0 Bicycle and Pedestrians

Bicycle and pedestrian planning became an integral part of the transportation planning process at the state level with Congressional approval of the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991. State transportation plans are required to include a bicycle and pedestrian element, and regionally significant bicycle and pedestrian projects and programs must be included in the Statewide Transportation Improvement Program.

Georgia's statewide planning for bicycles and pedestrians has its origins in the 1993 Transportation 2000 program workshops. In 1995, the State Transportation Board approved the initial Statewide Bicycle and Pedestrian Corridor Plan. This effort was followed in 1997 by development of the Georgia Bicycle and Pedestrian Plan: Statewide Route Network. This plan was updated in 1998 and serves as the primary resource for this effort.

As a matter of practicality, the Georgia Bicycle and Pedestrian Plan focuses heavily on bicycling; however, GDOT does include infrastructure improvements for pedestrians in urban areas in its work program. Paved shoulders constructed as part of the statewide route network also benefit pedestrians in rural locations. In lieu of dedicating funds exclusively for physical improvements to accommodate bicyclists and pedestrians, the Department has adopted procedures for designers to incorporate bicycle and pedestrian friendly elements into programmed improvement projects. This approach should result in almost all the state network being designed to standards that allow for safe and efficient movement of bicyclists and pedestrians within the next 20 years.

The Georgia Bicycle and Pedestrian Plan: Statewide Route Network (1998) was reviewed in an effort to ensure that individual project recommendations from the plan are included in the State Transportation Plan. However, individual project identifiers differ, which restrict the ability to accurately identify and crosscheck the multitude of projects around the state, their implementation schedules and project status.

■ 9.1 Key Pedestrian and Bicycle Generators and Corridors

A major element in successful planning for pedestrians and bicyclists is an understanding of who are the primary users of the facility, where they wish to go and the preferred routes for accessing those sites. Input received during previous local and state planning endeavors indicate that key pedestrian and bicycle generators include residential areas, institutions, and recreational and commercial facilities. With regard to bicycle and pedestrian projects which might be deemed “regionally significant” and included in the statewide plan, the primary users are adults and adults accompanied by young people. The primary travel purpose is recreational.

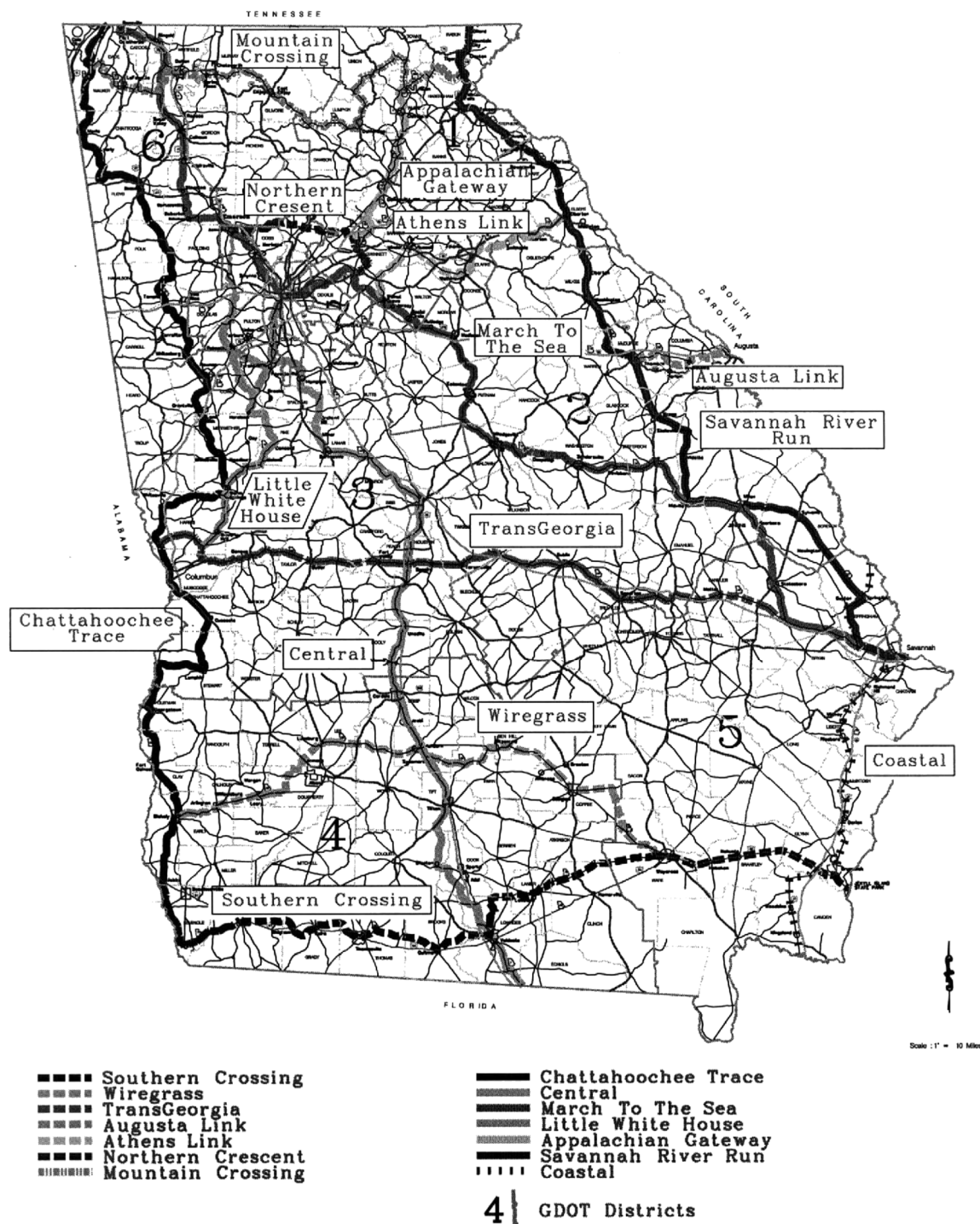
■ 9.2 Existing Network and Segments

The Georgia Statewide Bicycle and Pedestrian System includes 14 routes, some of which traverse the state while others provide connectivity between routes. The two longest routes are over 400 miles in length. Approximately 70 percent of the statewide system is on the state highway system. Table 9.1 lists the various routes and assigned Bicycle Route numbers. Figure 9.1 provides a map of the statewide system.

Table 9.1 The Georgia Statewide Bicycle and Pedestrian System

East-West Routes	North-South Routes
Southern Crossing (Route 10)	Chattahoochee Trace (Route 5)
Wiregrass (Route 20)	Central (Route 15)
TransGeorgia (Route 40)	March to the Sea (Route 35)
Augusta Link (Route 50)	Little White House (Route 45)
Athens Link (Route 60)	Appalachian Gateway (Route 55)
Northern Crescent (Route 70)	Savannah River Run (Route 85)
Mountain Crossing (Route 90)	Coastal (Route 95)

Figure 9.1 Georgia Statewide Bicycle and Pedestrian System



The routes comprising the statewide system have been defined, where possible, to complement bicycle and pedestrian initiatives at the city, county and regional levels. Many routes currently follow the most logical through route in cities and towns, bypassing the more scenic and side streets and sites of interest. These situations should be

identified and alternative “loops” provided to access these areas. A process should also be implemented to alter routes and add additional route segments as conditions warrant.

The statewide system covers 2,943 miles, but overlap between segments reduces actual roadway distance to 2,798 miles. Ten of the 14 routes run common with at least one other route at one or more locations. A brief description of each route follows.

Southern Crossing (Route 10)

The Southern Crossing Route runs east-west 246.3 miles between Lake Seminole, in the southwest corner of the state, and Jekyll Island, on the coast in Glynn County. The western terminal point is located at the intersection of Seminole County Road 221 (River Road) and GA 253. The eastern terminal point is located at the eastern end of the GA 520 bridge spanning the Intercoastal Waterway to Jekyll Island. This point is the entrance to Jekyll Island State Park. The Southern Crossing Route connects with the Chattahoochee Trace, Central, Wiregrass, and Coastal Routes.

Wiregrass (Route 20)

The Wiregrass Route runs 195 miles east-west between Early County, in the southwest portion of the state, to Waycross. The eastern terminal point is located at the intersection of U.S. 27 and GA 62 in Baxley. The eastern terminal point is located at the intersection of U.S. 82 and GA 122 in Waycross. The Wiregrass Route connects with the Chattahoochee Trace, Central and Southern Crossing Routes.

TransGeorgia (Route 40)

The TransGeorgia Route runs 268.5 miles east-west across central Georgia between just north of Columbus and downtown Savannah. The western terminal point is located at the intersection of GA 219 and GA 315 in southern Harris County. The eastern terminal point is located at the steps of City Hall (intersection of Bull Street and Bay Street) in downtown Savannah. The TransGeorgia connects with the Chattahoochee Trace, Little White House, Central, March to the Sea, Savannah River Run and Coastal Routes.

Augusta Link (Route 50)

The Augusta Link Route is 38.5 miles and runs east-west between Thomason, in McDuffie County, and downtown Augusta. The western terminal point is located at the intersection of GA 223 and GA 17 in Thomason. The eastern terminal point is located at the intersection of U.S. 25 Business (Broad Street) and 8th Street in downtown Augusta. The August Link connects with the Savannah River Run Route.

Athens Link (Route 60)

The Athens Link Route provides an east-west connection between Elberton and an unincorporated area of Gwinnett County near Grayson and Elberton. The route is 85.8 miles. The western terminal point is located at the intersection of Chandler Road and

Grayson-New Hope Road in Gwinnett County. The eastern terminal point is located at the GA 17/72 and GA 77 Connector in Elberton.

The Athens Link Route connects with the Northern Crescent and Savannah River Run Routes.

Northern Crescent (Route 70)

The Northern Crescent Route runs 66.1 miles east-west between Acworth in Cobb County and Snellville in Gwinnett County. The western terminal point is located at the intersection of Lemon Street and GA 293 in Acworth. The eastern terminal point is located at the intersection of GA 124 and Dogwood Road in Snellville. The Northern Crescent connects with the March to the Sea, Appalachian Gateway, and Athens Link Routes.

Mountain Crossing (Route 90)

The Mountain Crossing Route runs 210.3 miles east-west across the mountains of north Georgia between Walker County, south of Chattanooga, and Rabun County, in the northeast corner of the state. The western terminal point is located at the intersection of GA 136 and GA 157 in Walker County. The eastern terminal point is located at the intersection of Tiger Creek Road and Old U.S. 23 near Lake Rabun in Rabun County. The Mountain Crossing Route connects with the Chattahoochee Trace, March to the Sea, Appalachian Gateway and Savannah River Run Routes.

Chattahoochee Trace (Route 5)

The Chattahoochee Trace Route runs north-south 408.1 miles between the Tennessee state line at Chattanooga and Lake Seminole in the southwest corner of Georgia. The northern terminal point is located at the Tennessee state line on GA 157. The southern terminal point is located at the intersection of River Road and GA 253 in Seminole County. The Chattahoochee Trace Route connects with the Southern Crossing, Wiregrass, TransGeorgia, Little White House and Mountain Crossing Routes.

Central (Route 15)

The Central Route runs 326.5 miles north-south through the middle of Georgia between Acworth in Cobb County to the Florida state line south of Valdosta. The northern terminal point is located at the intersection of GA 293 and Nance Road in Acworth. The southern terminal point is located at the Florida state line on U.S. 41 south of Valdosta. The Central Route connects with the March to the Sea, Little White House, TransGeorgia, Wiregrass and Southern Crossing Routes.

March to the Sea (Route 35)

The March to the Sea route runs northwest-southeast 427.9 miles between the Tennessee state line near Chattanooga and downtown Savannah. The northern terminal point is located at the Tennessee state line on U.S. 27. The southern terminal point is located at the

intersection of Bull Street and Bay Street in downtown Savannah. The March to the Sea Route connects with the Mountain Crossing, Northern Crescent, Central, Little White House, Savannah River Run, Trans-Georgia and Coastal Routes.

Little White House (Route 45)

The Little White House Route runs north-south 124.2 miles between downtown Atlanta and near Ellerslie, in southern Harris County. A connector route links Palmetto, in southern Fulton County, with the primary route near the community of Senoia, in eastern Coweta County. The northern terminal point is located at the intersection of Peachtree Street and Marietta Street in downtown Atlanta. The northern terminal point of the connector is at the intersection of U.S. 29 and Fayetteville Road in Palmetto. The southern terminal point is located at the intersection of GA 315 and Warm Springs Road just south of Ellerslie. The southern terminal point of the connector is at the intersection of Main Street and Seavy Street in Senoia. The Little White House Route connects with the March to the Sea, Central, Chattahoochee Trace, and TransGeorgia Routes.

Appalachian Gateway (Route 55)

The Appalachian Gateway Route runs 62.8 miles north-south between Robertstown, just west of Helen in White County, and an unincorporated area near Suwanee in Gwinnett County. The northern terminal point is located at the intersection of GA 17/75 and GA 75 Alternate in Robertstown. The southern terminal point is located at the intersection of Old Peachtree Road and Collins Hill Road in an unincorporated area of Gwinnett County southeast of Suwanee. The Appalachian Gateway Route connects with the Northern Crescent and Mountain Crossing Routes.

Savanna River Run (Route 85)

The Savannah River Run Route runs southeast-northwest 314.3 miles between the North Carolina state line north of Dillard in Rabun County and downtown Savannah. The northern terminal point is located at the North Carolina state line on U.S. 23/441. The southern terminal point is located at the intersection of Bull Street and Bay Street in downtown Savannah, near the steps to City Hall. The Savannah River Run Route connects with the Mountain Crossing, Athens Link, August Link, March to the Sea, Coastal and TransGeorgia Routes.

Coastal (Route 95)

The Coastal Route runs 168.6 miles north-south between the South Carolina state line near Clyo in Effingham County to the Florida State line near St. Mary's in Camden County. The northern terminal point is located at the South Carolina state line on GA 119. The southern terminal point is located at the Florida state line on U.S. 17. The Coastal Route connects with the Savannah River Run, March to the Sea, TransGeorgia, and Southern Crossing Routes.

■ 9.3 Land Use and Public Facilities

Georgia has made major advancements over the last decade, especially in the larger metropolitan areas, in attracting persons to walking and bicycling as transportation modes.

ISTEA and TEA-21 allocations have provided increased funding levels for infrastructure development, and guidelines have encouraged intermodal linkages. Georgia DOT's policy to include sidewalk and bicycle improvements, as appropriate, on state projects is also continually building the system. However, this tends to provide the best facilities in those urban and rural areas where new or improved roadways are being constructed, while older urban areas receive a small number of upgrades relative to total road miles.

Major impediments to walking and bicycling as a transportation mode often cited by the public include absence of infrastructure, traffic dangers, and long trip distances. While many responses to these concerns are outside the scope of a state plan, actions likely to support increased use of non-motorized modes within the context of the statewide plan include:

- Increase funding for bicycle and pedestrian infrastructure construction and maintenance;
- Expand public information and bicycle safety education and enforcement programs;
- Enhance safety of pedestrian and bicycle facilities;
- Provide more bicycle parking and user support facilities;
- Improve access to transit routes and terminals, and through provisions to transport bicycles on transit vehicles; and
- Expand route markers and informational signage for bicycle routes.

■ 9.4 Public Perception

Public perception of use, need, and safety directly impact the viability of non-motorized transportation modes. The predominant view of bicycling and walking is that it is a sport or the activity of children. Few individuals or government agencies, until recently, have seriously considered them as legitimate means of transportation. The major cause cited for not using non-motorized transportation modes is fear of automobiles, followed by fear of crime.

Since the adoption of the 1995 Statewide Transportation Plan, during a period when vehicular and bicycle traffic was increasing, the total number of bicycle/highway crashes decreased from 1,173 in 1993 to 1,077 in 1998, an 8 percent decrease. The total number of injuries in bike/highway crashes decreased from 1,038 in 1993 to 896 in 1998, a 13 percent

decrease. The number of fatalities remained constant at 22.. Only one of the bicycle fatalities in 1997 was wearing a helmet. Forty percent of persons injured in bicycle crashes were children under the age of 15.

The same factors that affect bicycle crashes affect pedestrian crashes. The total number of injuries in pedestrian/highway crashes decreased from 2,284 in 1994 to 1,911 in 1998, a 16 percent decrease. The number of fatalities in pedestrian/highway crashes, however, increased from 151 in 1994 to 169 in 1998, a 12 percent increase. Seventy-nine percent of the 188 pedestrian fatalities in 1997 occurred in the five Atlanta metropolitan counties and 54 percent occurred in the State's 10 counties with the highest populations. Pedestrians and bicyclists are at a much higher risk of serious injury or death in a crash. Both walking and bicycling are alternative modes of transportation that have only recently been major factors in roadway design and are not generally the subject of focused attention by motorists. While the comparison of the crashes and injury rates indicates improvement, the lack of a decrease in bicycle fatalities and the increase in pedestrian fatalities highlights the need for increased public awareness and education regarding pedestrian and bicyclist safety. It also underscores the need to improve safety measures and provisions for pedestrians and bicyclists if public perception of walking and bicycling as a viable transportation mode is to improve.

10.0 Conclusions

The important points from the profiles of the different modes are summarized in bullet form for each section

■ 10.1 Roadway and Bridges

- Of the over 114,00 miles of roads in Georgia, GDOT owns 16 percent of the total. GDOT owns all of the mileage on the Interstate System and most of the mileage on the Arterial System.
- GDOT owns 44 percent of the over 14,700 bridges in Georgia, and all of the bridges on the Interstate System and most of the bridges on the Arterial System.
- Travel on GDOT roads represents over 64 percent of the Daily Vehicle Miles of Travel (DMVT) in Georgia.
- The Interstate System, which represents only one percent of the road miles, carries 27 percent of travel. The NHS carries 40 percent of the travel on only four percent of the road miles.
- Highway travel, as measured in Daily Vehicle Miles of Travel, has been growing at a rate of 4.5 percent per year.
- Pavement conditions, as measured in Present Serviceability Rating, are excellent throughout Georgia, by all ownership and road classes. Pavement conditions have improved since 1994.
- The bridges owned by GDOT are in good structural condition, with only four percent of the bridges rated as Structurally Deficient. 24 percent of the other publicly owned bridges are rated as Structurally Deficient. 93 percent of all privately owned bridges are rated as Structurally Deficient.
- Functionally Obsolete bridges are more uniformly distributed by ownership and represent 14 percent of all bridges.
- Structurally Deficient bridges have decreased slightly since 1994, but the number of Functionally Obsolete bridges has increased.
- While the number of highway crashes is increasing, the crash, injury, and fatality rates per Million Vehicle Miles (MVM) is decreasing.

- The Interstate is the safest system in terms of the crash rates, although the rates on the Interstate System are increasing.
- The number of crashes for special categories such as large trucks, rail crossings, bicycle, and pedestrians have almost all decreased since 1994. The percentage of large truck accidents is less than their percentage of the overall traffic, but the severity of large truck accidents in terms of fatalities, is almost three times greater.
- Congestion does not appear to be a problem in rural Georgia, but is a growing problem on Urban Arterials.
- The roads and bridges in those Georgia Counties with higher than normal concentrations of Environmental Justice populations perform similarly to the non-EJ counties. There is no difference in Pavement Condition, a slightly greater percentage of Structurally Deficient bridges, no significant difference in crash rates (excluding Fulton County with its high share of Georgia's VMT). EJ counties do have less congestion on the rural arterials, but greater congestion on Urban Arterials and Collectors.

■ 10.2 Public Transit

- Georgia has 10 urban public transportation systems in operation, including Albany, Athens, Atlanta (Cobb County, Douglas County and MARTA), Augusta, Columbus, Macon, and Savannah.
- In general, service provision and usage has grown for MARTA; however, usage has declined outside of the MARTA service area. Rising economic prosperity, declining real fuel prices, and relatively stable transit services have tended to result in declining ridership among transit dependent individuals.
- Within the Atlanta systems, Cobb County and MARTA report that work trips typically account for 60 percent to 65 percent of total ridership and that these riders are choosing transit over other modes. The MARTA ridership has grown in part because it has a smaller share of transit dependent riders.
- The average fleet age is over six years for all of Georgia's urban transit operators, but it does differ by transit system. In the case of Athens the average fleet age is over 16 years.
- The recently adopted Regional Transportation Plan (RTP) for the Atlanta area commits over \$20 billion in federal, state and local funding (55 percent of the total RTP funds) to expanding and operating the regional transit system.
- Other RTPs devote most of their transit expenditures to operating subsidies and bus replacements. Augusta, Columbus, Macon, and Chatham (Savannah) are in the midst of bus major replacement programs. Macon is also in the process of applying for

federal operating assistance; up until this time, transit operating subsidies in Macon were fully funded from local sources.

- Other MPOs in Georgia without current transit service (Brunswick, Chattanooga, and Warner-Robins) continually evaluate the need for new transit service within their ongoing planning processes. None of these areas plan to initiate new public transit systems in the foreseeable future.
- A majority of Georgia’s non-urbanized counties offer public transit service to the general population. Rural transit operations in Georgia are demand-responsive services, and are generally available through subscription service and advance reservation.
- Rural transit riders in Georgia tend to be low-income, elderly, and transit-dependent individuals. Most rural transit trips tend to be for personal business and medical reasons, with many operators indicating that they discourage work trips due to scheduling and resource constraints.
- Georgia’s rural transit operations are managed under administrative guidelines developed by GDOT. Georgia’s program is largely administered at the county level, although cities are allowed to operate and administer the service if no county-based program is available. Rural transit programs are also expected to meet minimum operating, utilization and cost recovery criteria, and have at least one lift-equipped vehicle in their fleet.
- While the number of rural counties with service increased by 21 percent and the revenue miles of service offered increased by 43 percent, ridership increased by only two percent. This indicates that without the increase in counties and miles, ridership would have most likely declined since the adoption of the 1995 Statewide Transportation Plan.
- There are 36 counties that exceed the statewide average for a majority (six or more) of the populations that comprise the majority of the Georgia rural transit market. These 36 counties are primarily in south Georgia.
- Urban or rural transit service is provided in 24 counties or 59 percent of the 41 counties that have a greater than average concentration of Environmental Justice populations compared to 58 counties or 49 percent of the 118 counties that have an average or less than average concentration. The concentration of the 17 Environmental Justice counties without transit service available is largely in south Georgia.
- Georgia’s transit program includes a parallel system of “human service” (HS) transportation providers that operate service for individuals that meet specific eligibility criteria. HS programs are generally funded through local, state, and federal sources, and are administered by the Georgia Department of Human Resources (DHR) and the Georgia Department of Community Health. The HS programs currently operate a fleet of 3,600 vehicles, all of which are owned by the State.

- The metro Atlanta region is currently the only area in the state in which high-occupancy vehicle (HOV) lanes are in operation or are currently planned for future development. The current HOV system in Atlanta is about 78 (miles in length, with several locations where travelers have exclusive entry and exit ramps from the freeway to adjacent surface streets. Currently, a 13.6-mile extension to the HOV system is under construction along I-85 in Dekalb and Gwinnett Counties. The Atlanta Regional Commission plan envisions a 220-mile expansion of the current HOV system by 2025.
- GDOT owns and monitors 88 park and ride lots spread throughout the state, about 20 of which are in the metro Atlanta area. Throughout 1999, observed utilization at the lots averaged about 23 percent. However, about 15 locations throughout the state are consistently utilized at about two-thirds of capacity or higher. In addition, some urban transit operators in Georgia also either operate or are planning to build park and ride lots.
- Major ridesharing activities in Georgia are currently limited to the Atlanta region. Individual commuter services are coordinated by *Commute Connections*, a program of the Atlanta Regional Commission. The ridesharing database currently has 7,000 ride-match records, which is an increase from 2,000 at the beginning of 1999. Employer services are coordinated by the Partnership for a Smog-Free Georgia (for public sector businesses), the Metropolitan Atlanta Chamber of Commerce (for individual private-sector businesses), and six Transportation Management Associations (for private sector businesses in six major activity centers). The mass media and public relations program is coordinated by the *Clean Air Campaign*.
- Based on trip surveys and travel data collected from Greyhound, the report estimated that about 540,000 intercity bus trips began or ended in Georgia in 1995. Of this total, about 70 percent of intercity bus trips were made for non-business reasons. The largest single travel market for intercity bus was between Atlanta and Macon, with 51,100 annual trips. However, travel between Georgia cities other than Atlanta accounted for nearly 100,000 annual trips, and travel between these non-Atlanta cities and locations outside of Georgia accounted for an additional 120,000 annual trips.
- GDOT's transit activities are guided by Section 32-9 of Georgia Code, which specifies activities that may be undertaken, supported, and funded by GDOT. This Code Section limits expenditure of state funds for transit to research and planning, capital assistance, advertising and marketing, and "research, development, and demonstration projects in all phases of mass transportation." All of these activities are subject to annual appropriation by the Georgia legislature.
- Federal funding is available for capital and operating assistance. Georgia does not provide operating assistance to public transit agencies. Most local government funding for transit services is provided by general fund revenues of municipalities and/or counties. However, several counties have some transit capital projects funded through special local options sales tax revenue.

■ 10.3 Railroads

- Georgia's current rail network consists of a total of 4,693 miles of trackage.
- The rail network is owned and operated by two class I major railroads, Norfolk-Southern (NS) and CSX Transportation (CSX), and 17 short-lines (or class III) railroads. The state of Georgia also has purchased several rail lines. Sixty-four percent of the system is categorized as mainline and the remainder is classified as light density lines (LDL's), which transport less than three million gross ton-miles per year.
- Norfolk-Southern (NS) and CSX Transportation (CSX) own and/or operate 3,509 miles of trackage or 75 percent of the statewide total. Sixteen short-line railroads operate 1,184 miles of light density lines. This accounts for 25 percent of the statewide network.
- The rail network transports approximately 195 million tons per year of originating and terminating freight commodities in 1998. The data shows a considerable increase from the last reporting period from 1986 to 1990. Based on the 1998 data, the top five commodity categories are: coal (25.6 percent), stone/clay/glass (13.0 percent), non-metallic minerals (12.0 percent), and farm products (5.7 percent).
- AMTRAK provides interstate passenger rail service through Georgia with the Crescent from New Orleans to Washington D.C. through Atlanta, Gainesville and Toccoa. Total boardings and alightings for 1999 by station was 85,377 in Atlanta, 5,574 in Gainesville, and 3,361 in Toccoa. The AMTRAK also operates the Silver Service from Boston to Miami through Savannah and Jesup. Total boardings and alightings for 1999 by station was 47,124 in Savannah and 6,757 in Jesup.
- The Georgia Rail Passenger Program (GRPP) is a tri-party agreement among the Georgia Department of Transportation (GDOT), Georgia Rail Passenger Authority (GRPA), and Georgia Regional Transportation Authority (GRTA), defining the responsibilities of the various agencies in developing and implementing a system of commuter rail services, intrastate rail services and the Atlanta Downtown Multimodal Passenger Terminal.
- The GRPP's Commuter Rail includes implementation of commuter rail services in seven corridors. Radiating from Atlanta, service would be provided in corridors to Griffin (2003), Athens (2004), Canton (2007), Bremen (2008), Covington (2008), Gainesville (2009), and Senoia (2009). The system includes 45 stations in 25 counties and is expected to provide service to over 70 percent of the state's population by 2010.

■ 10.4 Aviation

- The aviation system in Georgia consists of 109 open-to-the-public airports. Of these facilities, nine are commercial air carrier airports, including Hartsfield Atlanta International Airport (HIA). The remaining 100 airports are general aviation

facilities, 94 of which are publicly owned and operated. The remaining six general aviation airports are privately owned and operated.

- The nine air carrier airports handled a total of 40.3 million enplaned passengers in 1999, including 39.1 million enplanements at HIAA which has been the world's busiest airport in passengers for the past two years and which in 1999 was also the world's busiest airport in total operations (910,000). Of the remaining eight facilities Savannah International Airport (777,200) and Augusta-Bush Field (209,900) were the busiest airports in terms of passenger enplanements.
- Air cargo, carried in the belly of passenger aircraft or on the dedicated all-cargo carriers such as Federal Express, operates from primarily three airports. The three airports are Hartsfield Atlanta International Airport, Southwest Georgia Regional Airport (Albany), and Savannah International Airport. These three airports serving 99.9 percent of the state's enplaned cargo. Hartsfield accounts for 97 percent of the cargo at even these three airports.
- Atlanta-Hartsfield is by far the largest airport in terms of runways, runway length, terminal size, and operations. Savannah International is the next largest airport in terms of facilities, as it is in passenger demand.
- The Georgia Statewide Aviation System Plan (GSASP) classified the 94 publicly owned general aviation facilities into three levels for planning purposes: Level III – Business Airports of Regional Impact; Level II – Business Airports of Local Impact; and, Level I – Minimum Standard Utility Airports. The GSASP goal is to have a Level III airport within a 45-minute drive of any location in the state and Level II airport within a 30-minute drive of any location in the state.
- The GSASP plans to reduce the number of airports falling below the Level I standard to zero, to increase the number of Level II airports to 37, to increase the number of Level II airports to 36, and to increase the number of Level III airports to 31.

■ 10.5 Ports

- Taken together, more than 20 million tons of commodities were moved through over 38 public and private port terminals in the state of Georgia in calendar year 1998. Operations through the Georgia Ports Authority (GPA) terminals and port-related industries account for over 80,000 jobs and state/local taxes of \$585 million annually.
- In 1998, the Port of Savannah ranked seventh among U.S. Atlantic Coast ports in terms of container traffic (730,611 TEUs), fourth among U.S. Atlantic Coast ports in terms of international tonnage (14,574,907 short tons), and 39th among all U.S. ports in terms of total tonnage (17,710,606 short tons).

- The Port of Savannah includes two public terminals owned and operated by the Georgia Ports Authority (GPA) and 20 privately owned terminals engaged in cargo handling.
- The top five commodities handled by the Port of Savannah are, in rank order, petroleum products; sulfur, clay, salt; chemicals; sand, gravel rock and stone; and, iron and steel products.
- A 42-foot-deep navigation channel serving the Port of Savannah is maintained by the U.S. Army Corps of Engineers. Rail access is provided by Norfolk Southern and CSX and two shortline railroads. Major truck access is provided via I-95, I-16, U.S. 28, U.S. 80, U.S. 17, and GA 307, connecting with GA 25, which parallels the Savannah River. Terminals in Port Wentworth, Garden City and Savannah north of downtown are accessed directly from GA 25 and local connectors; terminals south of downtown Savannah are accessed from President Street.
- A wide range of improvements to enhance the efficient movement of vessels, trucks, railcars and freight information are planned in the Savannah area, including: GPA Containerport expansion; GPA James D. Mason Intermodal Container Transfer Facility (ICTF); GPA Ocean Terminal improvements; Channel deepening; GPA information systems deployment; Colonial Terminals expansion; and Bay Street Improvements.
- In 1998, the Port of Brunswick was 112th on the U.S. Army Corps of Engineers list of the top 150 U.S. tonnage ports, ranking it as a complex of both statewide and national significance.
- The Port of Brunswick includes three GPA terminals and five privately owned terminals.
- The Brunswick GPA facilities all have project depths of 30 feet, while the private terminals have project depths up to 30 feet. Rail access is provided by Norfolk Southern and CSX, and service to Colonel's Island is provided via the Colonel's Island Railroad. Major truck access is provided via I-95 and U.S. 17.
- The top five commodities handled by the Port of Brunswick are, in rank order, sand, gravel rock and stone; pulp and waste paper; non-metallic minerals; petroleum products; and, vehicles and parts.
- Significant improvements to enhance the efficient movement of vessels are planned in the Brunswick area. These planned improvements include the following: Replacement of the Sidney Lanier Bridge over the Brunswick River; and Channel deepening to a depth of 36 feet.
- The Ports of Bainbridge and Columbus are barge ports on the Apalachicola-Chattahoochee-Flint (ACF) River inland waterway system, which links the interior of Georgia with the Gulf of Mexico and the Gulf Intracoastal Waterway. While they do not rank among the top 150 U.S. tonnage ports, as calculated by the U.S. Army Corps of Engineers, they play a role in serving the needs of Georgia's agricultural, forest

products, construction and transportation industries by serving as an alternative to rail and truck transportation.

- The Port of Bainbridge includes one GPA facility and three privately owned terminals.
- Channel depths are nine feet within the Port of Bainbridge. Rail service is provided by CSX. Major truck access is via I-10, U.S. 27/84 and GA 253.
- The Port of Columbus includes two GPA facilities, one of which is currently in use, and two privately owned terminals (including those in Cedar Springs).
- Channel depths are nine feet within the Port of Columbus. Rail service is provided by the Georgia Southwestern (Columbus) and the Chattahoochee Industrial Railroad (cedar Springs). Major truck access is via I-185 and U.S. 27/280 (Columbus) and via U.S. 84 and GA 370 (Cedar Springs).
- Waterborne flows are reported for the entire Apalachicola-Chattahoochee-Flint (ACF) River inland waterway system, including Alabama facilities, and amount to 443 thousand tons per year. The GPA facilities handle 65 thousand tons per year. The top five commodities handled by the ACF system are, in rank order, sand, gravel rock and stone; fertilizer; petroleum products; grain; and, oilseeds.
- There are no reported improvements in the Bainbridge or Columbus areas that would affect the ports, although the City of Columbus has suggested redeveloping part of the GPA terminal as a recreational boating marina.
- Over the past ten years, the South Atlantic ports have, as a group, grown their container traffic by almost 10 percent per year – a rate that compares with the Ports of Los Angeles and Long Beach. The South Atlantic now surpasses the North Atlantic as the dominant U.S. gateway to the Atlantic. The Port of Savannah has advantages that position it to become the principal hub port for the South Atlantic.
- There is a generally strong growth seen for non-containerized commodities (based on growth in production and consumption, increasingly complex production chains, “off-shoring” of production, etc.), but these effects are somewhat less dramatic than for containers, and mitigated by the increasing use of containers to handle so-called “swing” commodities.
- The ACF system provides an alternative for many shippers who would otherwise would be captive customers of the rail system, with the potential of predatory pricing before them. In addition barges are the least polluting, most energy-efficient means of inland transportation. The ACF system, of which the Ports of Bainbridge and Columbus are part, is not being currently being fully utilized by shippers because it is not reliable, and it is not reliable because it is not navigable much of the time. This is due to two factors: the water resources necessary to maintain a nine-foot operating depth for barges are not being allocated; and maintenance dredging is not being undertaken.

■ 10.6 Trucking

- Trucks move over 80 percent of Georgia's commodities, and over two-thirds of its communities rely solely on trucking to deliver their goods.
- About 5,000 motor carriers are registered in Georgia for interstate fuel tax licenses; close to the same number of carriers register their interstate operating authority in the state. In 1997, about 500 intrastate carriers were registered with the Public Service Commission. Some 950 interstate carriers operating in Georgia transport commodities that are exempt from federal economic regulation.
- It is estimated that 170,000 trucks operate in the state (1997), an increase of 15 percent from 1992, when 147,500 trucks operated in Georgia. Compared to the national average, Georgia has a higher proportion of small fleets (one to five vehicles), 38 percent versus 42 percent, respectively, and a lower proportion of large fleets (more than 100 vehicles), 19.3 percent versus 16.5 percent, respectively.
- The leading major use of trucks is construction (19.5 percent), followed by wholesale and retail trade (17.7 percent), utilities and service (14.1 percent), and for-hire transportation (12.5 percent). Agriculture, which nationally accounts for slightly over 15 percent of trucks, demands only 9.6 percent of trucks in the state, down from 13.5 percent in 1992
- In Georgia today, under 51 percent of trucks operate locally, within 50 miles of their home base, compared to the national average of 52.5 percent. Between 1992 and 1997, the percentage of trucks in the state that operate in a regional market of 50 to 200 miles increased from 20 to 25 percent; nationwide, slightly less than 24 percent of trucks operate regionally, up from 20.3 percent. The percentage of trucks that operate in a long-haul, national market of more than 200 miles remained steady at 12.6 percent from 1992 to 1997. Nationally, 15 percent of trucks have long-range operations.
- Georgia trucks (i.e., for hire and private) accounted for \$177.9 billion, or 79.3 percent, of total shipments by value and 331.6 million tons, or 88.8 percent, by weight. Trucking's share in 1997 of the value of total shipments was somewhat lower than the 84 percent recorded for 1993 while its share of tonnage increased from 83 percent in 1993.
- In 1997, 30 percent of the commodities by value and 65 percent of the commodities by weight traveled less than 50 miles. At the same time, 57 percent by value and 88 percent by weight went distances less than 250 miles.
- Slightly over 38 percent of the value of shipments originating in Georgia remained in the state, as did 76 percent of tons shipped. For shipments measured in value, the leading destinations in 1997 were the neighboring states of Florida (8.8 percent), South Carolina (five percent), North Carolina and Tennessee (both 4.3 percent), and Alabama (four percent). California (3.7 percent) and Texas (3.6 percent) also were important destinations. Florida, North and South Carolina, Tennessee, and Alabama accounted for the largest portion of goods exported from Georgia measured in tons.

- For commodities originating in the state, the major goods hauled when ranked by value are textiles and leather (14 percent); food products (10 percent); motorized and other vehicles, including parts (nine percent); mixed freight (5.8 percent); and electronic and other electrical equipment and components (5.6 percent). When ranked by weight, the major goods hauled are gravel and crushed stone (34.5 percent); gasoline and aviation turbine fuel (12.5 percent); nonmetallic mineral products (7.8 percent); and wood products (6.8 percent).
- An additional 149.4 million tons of goods valued at \$156.9 billion were brought into Georgia from other states. These shipments – by value – came primarily from North and South Carolina, California, Tennessee, Florida, Alabama, Texas, Ohio, Illinois, Michigan, and New Jersey. Value of shipments from these states ranges from \$10 to \$11 billion (Carolinas, California, Tennessee) to \$6.5 billion (Michigan and New Jersey).
- Georgia was an early deployer of weigh-in-motion (WIM) equipment at its weigh stations (these were low-speed WIMs on entrance ramps) and continues to be a leader in using WIM for enforcement weighings. Use of WIM and other weight enforcement practices minimizes congestion delays for commercial operators, and Georgia and other states are increasingly moving to these activities.
- Georgia Public Service Commission (PSC) conducted 35,500 safety inspections in 1997. Of this number, approximately 23 percent of the vehicles inspected were placed out-of-service (OOS) due to serious violations. Nationwide, the vehicle OOS rate was about 21 percent. The OOS rate has been trending downward in the past few years; Georgia's rate fell 50 percent between 1989 and 1996.
- GDOT intends to implement roadside electronic clearance technology (WIM-based) at all state weigh stations within several years, providing clearance (bypass) to eligible trucks. Interstate 75 weigh stations all have already been equipped with electronic clearance technology.
- GDOT's AVI Permitting Project is adding an electronic permitting function to the electronic clearance systems at weigh stations, and will install readers at the port of Savannah to identify exiting trucks having electronic permits.

■ 10.7 Intelligent Transportation Systems (ITS)

- Georgia's integrated ITS program, known as NAVIGATOR, is currently deployed in Metropolitan Atlanta and is designed to minimize freeway and arterial congestion and to improve travel safety.
- NAVIGATOR is designed to collect information about current conditions on the transportation system, to process that information into a manageable format, to develop responses to incidents affecting the roadway system, and to inform travelers of their best travel options

- The operational program is located at the Transportation Management Center (TMC) in Atlanta, housed together with the Georgia State Patrol (GSP) and the Georgia Emergency Management Agency. The TMC is connected to Transportation Control Centers (TCCs) of the counties of Clayton, Cobb, DeKalb, Fulton, and Gwinnett, the cities of Athens, Atlanta, and Savannah, and the Metropolitan Atlanta Regional Transportation Authority (MARTA).
- The traffic management network currently covers 2,240 miles of freeways and 150 miles of arterial roadways.
- The primary data collection of information on congestion, incidents and road conditions is through a video monitoring and detection system. The video system includes: 67 full-color cameras along Interstates 75 and 85; over 300 black and white video detection cameras; and more than 100 cameras operated by the area TCCs.
- Information concerning incidents is also available through a number of other sources, including: DOTT (*368), a free cellular phone service used by motorists to call and report incidents; the Highway Emergency Response Operators (HEROs) patrols; Atlanta's Regional Enhanced 911 system; transit route conditions and parking availability at stations from the MARTA TCC; and, communications with the GSP radio dispatch facilities.
- NAVIGATOR's Incident Management Program is designed to safely and quickly remove incidents from the travel lanes, and to eliminate traffic tie-ups and restore the normal flow of traffic. The components of the Incident Management System are the HERO patrols, the Motor Vehicle Emergency Response Team (MoVER), and Accident Investigation Sites.
- The HERO program consists of 34 vans that patrol thirteen routes within metropolitan Atlanta on weekdays from 5:30 a.m. to 9:00 p.m. Their primary responsibility is to provide for rapid response to incidents, to minimize traffic disruptions at highway incidents by initiating measures that reduce congestion and delays and to provide support to law enforcement, emergency and other agencies responding to incidents.
- The MoVER team was created to enhance traffic operations at the scene of an incident. The team's members are experienced in traffic operations, maintenance operations, incident assessment, communications protocol and clearance procedures.
- More than 75 Accident Investigation Sites along Interstates 20, 75, 85 and 285 provide safe areas for motorists involved in traffic accidents without injuries to exchange information, and wait for police investigation outside of the travel lanes on freeways.
- The NAVIGATOR program provides information to travelers concerning current traffic conditions and to allow for informed transportation decisions. Those techniques include Changeable Message Signs (CMS), Travel Information Kiosks, and the NAVIGATOR web site.
- More than 45 CMSs, located at critical points along Interstates 20, 75, 85 and Georgia 400, display Travel Time and Incident messages. Travel Time messages inform the

motorist of the expect time to reach certain major interchanges. The travel times are based on the volume and speed information collected as part of the video monitoring and detection program. Incident messages inform travelers about delays resulting from disabled vehicles, accidents or construction.

- Similar information is also available at 110 Travel Information Kiosks located around the state at highway rest areas, government buildings and transportation hubs. The kiosks include touch-screen displays, which, in addition to the traffic information, also display MARTA schedules, weather, airline schedules and other traveler information
- Travel time and incident information is also available through the NAVIGATOR traffic web page, <http://www2.georgianavigator.com/traffic/>. The traffic page displays, for computers connected to the Internet, information concerning incidents roadway construction, travel speeds, video cameras of traffic conditions, Changeable Message Signs, and travel times.
- The Georgia DOT has adopted a 20-Year ITS Strategic Deployment Plan that indicates how ITS technology and programs are to be expanded through Georgia.
- The Atlanta-based TMC will remain the primary center responsible for the geographic area in and around Atlanta and will become the state wide coordination center for transportation management across TCC geographic boundaries.
- Reliable high-speed, high band width communications, primarily fiber optic cable, will be installed along Interstate highways, freeways, controlled access facilities and other major arterials to connect surveillance equipment to the TCCs and to connect the TCCs to the TMC.
- The program will be expanded through the involvement of local agencies, other state agencies and authorities, and private partnerships to support effective operations and maintenance of the totally interactive, multi-agency, multi-purpose, integrated system.

■ 10.8 Bicycle and Pedestrian

- GDOT includes sidewalk improvements for pedestrians in urban areas in its work program. Paved shoulders constructed as part of the statewide route network also benefit pedestrians in rural locations.
- In lieu of dedicating funds exclusively for physical improvements to accommodate bicyclists and pedestrians, the Department has adopted procedures for designers to incorporate bicycle and pedestrian friendly elements into programmed improvement projects. This approach should result in almost all the state network being designed to standards that allow for safe and efficient movement of bicyclists and pedestrians within the next 20 years.

- In 1995, the State Transportation Board approved the initial Statewide Bicycle and Pedestrian Corridor Plan. This effort was followed in 1997 by development of the Georgia Bicycle and Pedestrian Plan: Statewide Route Network.
- With regard to bicycle and pedestrian projects which might be deemed “regionally significant” and included in the statewide plan, the primary users are adults and adults accompanied by young people. The primary travel purpose is recreational.
- The Georgia Statewide Bicycle and Pedestrian System includes 14 routes, some of which traverse the state while others provide connectivity between routes. Approximately 70 percent of the statewide system is on the state highway system.
- The statewide system covers 2,943 miles, but overlap between segments reduces actual roadway distance to 2,798 miles. Ten of the 14 routes run common with at least one other route at one or more locations.
- Major impediments to walking and bicycling as a transportation mode often cited by the public include absence of infrastructure, traffic dangers, and long trip distances.
- Public perception of bicycling and walking is that it is a sport or the activity of children. Few individuals or government agencies, until recently, have seriously considered them as legitimate means of transportation. The major cause cited for not using non-motorized transportation modes is fear of automobiles, followed by fear of crime.
- Seventy-nine percent of the 188 pedestrian fatalities in 1997 occurred in the five Atlanta metropolitan counties and 54 percent occurred in the State’s 10 counties with the highest populations.
- Nineteen persons died in bicycle crashes in Georgia in 1997. Only one was wearing a helmet. Forty percent of persons injured in bicycle crashes were children under the age of 15.

Appendix A

*Service Characteristics for Rural Public Transportation
Systems (Calendar Year 1999)*

Service Characteristics for Rural Public Transportation Systems (Calendar Year 1999)

County Name	Passenger Trips	Vehicle Hours	Vehicle Miles	Number of Vehicles in Fleet	Average Age of Fleet (Years)	Number of Vehicles over Five Years Old
Baldwin	13,157	3,851	80,698	2	4.0	0
Banks	2,110	1,037	15,483	1	1.0	0
Bartow	51,057	13,618	176,314	8	3.5	1
Bleckley	27,965	7,936	59,908	4	3.0	0
Bryan	25,962	7,255	108,980	4	2.3	0
Burke	85,695	20,458	387,317	10	3.1	1
Butts	1,206	252	6,611	1	0.0	0
Catoosa	72,689	13,393	209,671	7	2.0	0
Chattahoochee	9,894	3,655	40,759	3	3.3	0
Chattooga	16,970	4,026	75,146	2	1.0	0
Cherokee	99,141	20,782	227,056	9	3.1	1
Clay	27,067	5,665	92,657	4	4.0	1
Columbia	25,399	5,376	110,316	3	2.7	0
Cook	19,412	9,418	157,392	5	1.4	0
Crawford	26,927	6,151	94,928	5	2.6	1
Dade	12,225	1,307	34,490	2	5.0	1
Dodge	36,806	9,621	126,892	5	2.8	0
Dooly-Unadilla	5,504	1,931	28,196	1	2.0	0
Dooly-Vienna	4,334	1,344	12,047	1	5.0	0
Elbert	22,666	5,709	51,603	4	4.8	1
Emanuel	7,845	2,423	42,739	1	3.0	0
Fannin	17,333	6,590	60,451	3	4.0	1
Floyd	893	276	3,472	1	12.0	1
Forsyth	12,028	3,966	66,385	2	3.0	0
Gilmer	15,479	4,326	58,037	3	4.0	1
Glascocock	16,779	3,680	50,688	2	3.5	0
Gordon	15,955	9,047	152,043	6	2.8	0
Greene	33,711	6,192	108,388	5	3.6	0
Habersham	13,904	2,227	50,103	2	3.0	0
Hall	41,696	12,003	165,925	8	3.8	0
Hancock	15,604	5,449	99,516	2	3.0	0
Haralson	73,125	5,524	76,343	4	3.0	1
Hart	6,420	3,290	26,616	2	5.0	0

County Name	Passenger Trips	Vehicle Hours	Vehicle Miles	Number of Vehicles in Fleet	Average Age of Fleet (Years)	Number of Vehicles over Five Years Old
Heard	3,287	1,944	33,066	2	3.0	0
Henry	32,955	7,100	103,171	4	3.0	0
Jackson	7,962	3,125	62,173	2	4.0	0
Jefferson	41,475	10,426	157,906	5	3.8	0
Jenkins	8,886	1,488	15,778	2	4.5	0
Jones	14,979	5,008	63,265	2	3.0	0
Lamar	9,990	5,470	108,512	2	3.0	0
Laurens	29,830	7,807	158,693	4	2.3	0
Lincoln	45,406	6,397	57,712	3	3.0	0
Long	13,982	3,152	71,765	4	2.8	0
Lumpkin	6,967	2,018	25,596	1	5.0	0
Macon	22,753	6,870	128,021	3	1.7	0
McDuffie	43,176	8,816	126,908	5	3.4	1
Mitchell	60,130	15,326	386,577	9	2.2	0
Montgomery	16,828	5,761	77,544	3	0.7	0
Morgan	18,220	6,451	77,498	3	2.3	0
Murray	16,531	7,078	75,559	4	5.5	2
Paulding	17,019	8,654	98,330	5	4.4	2
Peach	26,317	5,950	49,029	3	2.3	0
Pickens	10,951	5,884	37,086	3	5.3	1
Pierce	16,889	6,235	122,392	4	1.8	0
Pike	569	416	5,875	1	0.0	0
Polk	19,025	3,699	29,859	2	3.5	1
Pulaski	7,844	1,935	18,265	1	0.0	0
Putnam	18,953	4,482	62,011	3	1.0	0
Quitman	5,576	1,416	40,014	1	2.0	0
Rabun	4,585	1,682	26,759	1	4.0	0
Richmond	36,914	8,192	165,084	5	2.4	0
Spalding	2,414	1,070	17,813	3	0.0	0
Stephens	611	109	2,027	1	0.0	0
Sumter	27,615	4,529	68,594	3	2.3	0
Talbot	24,739	6,307	152,827	3	3.3	0
Taliaferro	11,384	2,902	48,468	2	1.5	0
Taylor	5,642	4,009	85,825	2	1.0	0
Telfair	15,306	3,944	29,413	2	2.5	0
Tift	7,430	3,367	52,622	2	0.5	0
Treutlen	6,648	1,960	17,693	1	2.0	0
Troup	30,313	9,998	102,746	3	4.3	0
Twiggs	12,398	3,819	61,066	2	2.5	0
Union	4,198	966	9,521	1	0.0	0
Upton	3,091	785	12,734	2	0.0	0
Walker	72,838	42,461	570,562	19	2.7	2
Walton/Social Circle	5,022	1,178	14,725	1	3.0	0
Warren	21,191	3,859	63,409	2	2.0	0
Wheeler	16,586	3,928	65,726	2	1.5	0

County Name	Passenger Trips	Vehicle Hours	Vehicle Miles	Number of Vehicles in Fleet	Average Age of Fleet (Years)	Number of Vehicles over Five Years Old
Whitfield	67,954	16,170	213,702	10	4.5	3
Wilcox	14,348	3,869	67,489	2	2.5	0
Wilkes	17,384	4,616	77,261	3	3.7	0
Wilkinson	17,522	5,869	120,290	3	3.7	0

Appendix B

*Demographic Profile of Rural Counties Without Public
Transportation Service*

Demographic Profile of Rural Counties Without Public Transportation Service

County Name	Persons Aged 60+	Persons in Poverty	Handicapped 16 to 64	Grade School	High School	Total Handicapped	Employed Handicapped	0 Vehicle Households	Bus/Walk/Bike Commuters	Carpool Commuters
Appling County	20.5%	17.4%	2.1%	16.4%	5.6%	6.2%	0.3%	4.5%	1.1%	8.3%
Atkinson County	19.6%	24.0%	3.7%	16.2%	4.7%	6.7%	0.5%	4.4%	1.2%	9.4%
Bacon County	20.3%	20.7%	2.6%	15.1%	5.5%	5.6%	0.4%	4.0%	1.0%	8.5%
Baker County	22.2%	20.6%	1.7%	16.2%	5.8%	4.1%	0.4%	4.2%	1.5%	9.0%
Barrow County	18.8%	12.3%	2.4%	13.6%	4.0%	4.7%	0.4%	2.5%	0.6%	9.1%
Ben Hill County	22.3%	18.7%	2.0%	16.3%	5.3%	5.5%	0.2%	4.9%	1.4%	8.0%
Berrien County	21.7%	17.5%	1.6%	14.1%	4.4%	5.4%	0.3%	3.3%	0.8%	8.0%
Brantley County	17.6%	16.6%	2.5%	17.0%	4.9%	5.2%	0.1%	2.4%	1.0%	8.1%
Brooks County	23.8%	20.4%	2.4%	15.3%	5.4%	6.7%	0.3%	4.8%	1.6%	7.5%
Bulloch County	17.5%	20.2%	1.5%	11.6%	4.0%	3.8%	0.3%	3.2%	2.3%	6.8%
Calhoun County	26.1%	25.4%	2.5%	16.0%	7.4%	7.6%	0.6%	7.5%	1.3%	10.8%
Camden County	9.4%	8.6%	0.7%	14.7%	3.6%	2.2%	0.2%	1.8%	2.3%	8.7%
Candler County	24.3%	18.8%	2.8%	13.5%	5.0%	7.7%	0.3%	4.9%	1.3%	7.7%
Carroll County	17.7%	12.8%	1.7%	13.7%	4.0%	4.2%	0.2%	3.1%	1.2%	9.0%
Charlton County	18.6%	17.4%	2.3%	15.4%	4.6%	5.8%	0.3%	3.9%	1.2%	11.5%
Clinch County	20.6%	23.3%	4.0%	16.3%	6.8%	7.6%	0.6%	4.1%	1.9%	8.3%
Coffee County	17.7%	19.2%	1.9%	15.3%	4.5%	4.4%	0.2%	3.9%	1.1%	9.4%
Colquitt County	22.4%	18.3%	2.1%	15.0%	5.2%	5.7%	0.4%	4.8%	2.2%	7.2%
Coweta County	17.8%	9.5%	1.6%	13.9%	4.5%	3.8%	0.2%	2.7%	1.1%	7.8%
Crisp County	23.1%	22.5%	2.7%	15.4%	5.2%	6.7%	0.4%	6.6%	1.1%	7.2%
Dawson County	17.5%	11.5%	1.6%	13.5%	3.9%	3.5%	0.3%	1.7%	0.9%	9.1%
Decatur County	21.2%	17.5%	2.0%	16.0%	5.5%	4.9%	0.3%	5.5%	1.3%	7.6%
Douglas County	13.8%	5.3%	1.1%	14.4%	4.6%	2.8%	0.2%	1.3%	0.6%	7.6%
Early County	25.0%	25.6%	1.7%	15.3%	4.5%	5.4%	0.2%	6.2%	1.7%	8.2%

Notes: Bolded entries indicate values that are larger than the statewide average for counties with existing rural transit systems.
Background shading indicates those counties that exceed the statewide average on a majority of attributes.

Demographic Profile of Rural Counties Without Public Transportation Service (continued)

County Name	Persons Aged 60+	Persons in Poverty	Handicapped 16 to 64	Grade School	High School	Total Handicapped	Employed Handicapped	0 Vehicle Households	Bus/Walk/Bike Commuters	Carpool Commuters
Echols County	18.8%	14.1%	3.4%	15.8%	4.9%	5.7%	0.9%	2.4%	0.9%	8.4%
Effingham County	15.0%	11.7%	2.2%	16.5%	4.3%	3.8%	0.2%	2.0%	0.7%	7.9%
Evans County	23.1%	21.1%	1.5%	14.9%	5.3%	6.0%	0.1%	6.0%	1.3%	8.1%
Fayette County	13.7%	3.1%	0.8%	15.5%	5.2%	1.8%	0.3%	0.5%	0.5%	5.7%
Franklin County	26.1%	15.5%	2.9%	11.6%	3.8%	6.5%	0.5%	3.7%	1.1%	8.3%
Grady County	23.3%	19.2%	1.7%	15.2%	4.9%	5.0%	0.2%	4.3%	1.0%	9.3%
Harris County	23.1%	13.2%	1.7%	13.8%	3.7%	4.8%	0.2%	2.6%	1.0%	7.5%
Irwin County	24.3%	23.8%	2.9%	16.1%	6.1%	7.2%	0.4%	4.6%	0.8%	5.9%
Jasper County	22.9%	17.3%	1.2%	14.7%	4.6%	3.9%	0.0%	4.4%	1.5%	9.7%
Jeff Davis County	19.9%	17.0%	2.7%	14.1%	4.4%	4.8%	0.3%	3.4%	1.0%	7.6%
Johnson County	24.0%	20.4%	2.4%	14.8%	4.6%	7.5%	0.4%	5.0%	0.7%	10.5%
Lanier County	20.0%	20.4%	3.7%	14.9%	5.2%	6.5%	0.3%	3.9%	1.7%	10.1%
Lee County	12.6%	11.1%	1.1%	17.7%	6.5%	2.3%	0.2%	2.0%	0.4%	5.5%
Liberty County	6.8%	11.8%	0.8%	13.4%	3.2%	1.7%	0.1%	2.2%	7.6%	9.1%
Lowndes County	16.5%	15.9%	1.6%	13.8%	4.8%	3.8%	0.3%	3.5%	1.9%	5.8%
Macon County	13.7%	17.3%	1.1%	11.5%	3.8%	3.7%	0.2%	4.1%	1.6%	5.5%
Madison County	46.8%	30.5%	5.1%	31.5%	9.6%	10.8%	0.6%	6.3%	4.2%	20.9%
Marion County	8.6%	10.4%	1.3%	6.4%	2.3%	3.1%	0.2%	2.3%	0.5%	3.7%
McIntosh County	34.6%	33.0%	4.7%	22.5%	7.5%	8.8%	0.1%	6.7%	1.4%	17.3%
Meriwether County	21.8%	18.2%	2.6%	14.8%	5.2%	6.0%	0.6%	4.8%	1.0%	9.7%
Miller County	26.6%	19.6%	1.5%	13.7%	5.7%	6.0%	0.1%	4.6%	1.6%	8.1%
Monroe County	19.5%	11.4%	2.1%	14.0%	5.1%	5.3%	0.2%	2.7%	0.8%	8.4%
Newton County	18.7%	11.5%	1.4%	13.9%	4.4%	3.7%	0.2%	3.2%	1.0%	8.8%
Oconee County	16.1%	7.8%	1.3%	14.5%	4.4%	3.7%	0.2%	1.9%	1.1%	6.1%

Notes: Bolded entries indicate values that are larger than the statewide average for counties with existing rural transit systems.
Background shading indicates those counties that exceed the statewide average on a majority of attributes.

Demographic Profile of Rural Counties Without Public Transportation Service (continued)

County Name	Persons Aged 60+	Persons in Poverty	Handicapped 16 to 64	Grade School	High School	Total Handicapped	Employed Handicapped	0 Vehicle Households	Bus/Walk/Bike Commuters	Carpool Commuters
Oglethorpe County	21.1 %	14.9 %	2.2 %	13.9 %	4.0 %	6.5 %	0.4 %	3.9 %	0.6 %	9.7 %
Randolph County	25.5 %	30.1 %	1.4 %	17.0 %	4.7 %	5.4 %	0.1 %	7.5 %	1.1 %	9.5 %
Rockdale County	15.5 %	5.3 %	1.3 %	14.5 %	4.6 %	2.7 %	0.3 %	1.2 %	0.5 %	7.0 %
Schley County	20.7 %	17.8 %	1.8 %	14.3 %	5.3 %	5.0 %	0.2 %	6.6 %	1.2 %	6.3 %
Screven County	23.4 %	18.7 %	2.5 %	15.2 %	4.8 %	7.0 %	0.4 %	5.3 %	1.3 %	7.5 %
Seminole County	24.9 %	20.8 %	1.8 %	12.9 %	5.2 %	5.0 %	0.5 %	4.4 %	2.0 %	10.4 %
Stewart County	26.1 %	27.2 %	2.5 %	15.4 %	5.3 %	6.5 %	0.3 %	6.7 %	2.3 %	9.4 %
Tattnall County	21.6 %	17.4 %	2.4 %	12.6 %	5.1 %	6.3 %	0.4 %	3.6 %	1.7 %	7.3 %
Terrell County	24.0 %	23.2 %	2.0 %	16.7 %	4.6 %	5.9 %	0.8 %	7.6 %	2.1 %	8.7 %
Thomas County	23.0 %	18.4 %	2.3 %	14.9 %	5.2 %	6.0 %	0.4 %	5.1 %	1.5 %	7.3 %
Toombs County	20.9 %	20.3 %	2.4 %	15.1 %	4.7 %	6.0 %	0.5 %	5.0 %	1.0 %	7.9 %
Towns County	37.9 %	16.0 %	1.7 %	9.2 %	3.2 %	6.4 %	0.1 %	4.2 %	1.9 %	5.4 %
Turner County	22.6 %	21.2 %	2.6 %	17.2 %	5.9 %	4.9 %	0.1 %	7.4 %	2.2 %	7.5 %
Ware County	24.8 %	18.5 %	2.6 %	14.4 %	4.9 %	6.3 %	0.4 %	4.7 %	1.0 %	5.6 %
Washington County	21.3 %	19.6 %	1.7 %	15.8 %	4.7 %	5.7 %	0.4 %	6.3 %	1.0 %	9.1 %
Wayne County	20.7 %	17.0 %	2.1 %	15.2 %	4.6 %	5.1 %	0.4 %	3.3 %	1.1 %	6.7 %
Webster County	24.2 %	20.8 %	2.5 %	14.5 %	5.4 %	5.3 %	0.5 %	6.0 %	1.5 %	13.5 %
White County	25.6 %	11.6 %	1.7 %	11.6 %	3.8 %	5.6 %	0.3 %	2.3 %	0.8 %	8.3 %
Worth County	19.5 %	20.4 %	1.9 %	16.6 %	5.0 %	4.1 %	0.5 %	4.4 %	1.2 %	9.2 %

Source: 1990 Census Transportation Planning Package.

Notes: Bolded entries indicate values that are larger than the statewide average for counties with existing rural transit systems.
Background shading indicates those counties that exceed the statewide average on a majority of attributes.

Appendix C

Air Carrier Airport Facility Summaries

Air Carrier Airport Facility Summaries

Atlanta – Hartsfield Atlanta International Airport

Owner/operator	City of Atlanta
Location	2000 North Terminal Parkway, Atlanta, GA 30320
Access	I-85, I-75, I-285/SR 139
Runway(s)	8L/27R (9,000'x150'); 8R/26L (10,000'x150'); 9L/27R (11,889'x150'); 9R/27L (9,000'x150')
Terminal s.f.	Passenger terminal, 5.8 m.s.f. (1.2 m.s.f. landside terminal; 3.7 m.s.f. airside concourses; 0.9 m.s.f. transportation mall). General aviation terminal
Operations (Year)	910,000 (1999)
Based Aircraft	10

Albany – Southwest Georgia Regional

Owner/operator	City of Albany and Dougherty County
Location	3905 Newton Road, Albany, GA 31707
Access	SR 91
Runway(s)	4/22 (6,601'x150'); 16/34 (5,200'x150')
Terminal s.f.	Air carrier terminal, 28,000 s.f.; General aviation terminal, 4,000 s.f.
Operations (Year)	36,068 (1998)
Based Aircraft	48

Athens – Ben Epps

Owner/operator	Clarke County
Location	1010 Ben Epps Road, Athens, GA 30605
Access	Winterville Road to U.S. 78/SR 10
Runway(s)	2/20 (4,000'x100'); 9/27 (5,522'x100')
Terminal s.f.	Air carrier terminal, 7,500 s.f.; General aviation terminal, 2,500 s.f.
Operations (Year)	52,420 (1998)
Based Aircraft	109

Augusta – Bush Field

Owner/operator	City of Augusta
Location	1501 Aviation Way, Augusta, GA 30906
Access	SR 56
Runway(s)	8/26 (6,001'x150'); 17/35 (8,001'x150')
Terminal s.f.	Air carrier terminal, 81,500 s.f.; General aviation terminal, 4,300 s.f.
Operations (Year)	39,259 (1998)
Based Aircraft	5

Brunswick – Glynnco Jetport

Owner/operator	Glynn County
Location	500 Connoles Street, Brunswick, GA 31520
Access	U.S. 17
Runway(s)	7/25 (8,001'x 150')
Terminal s.f.	Air carrier terminal, 11,800 s.f.; General aviation terminal, 4,100 s.f.
Operations (Year)	22,190 (1998)
Based Aircraft	77

Columbus – Columbus Metropolitan

Owner/operator	Columbus Airport Commission
Location	3250 W. David Britt Road, Columbus, GA 31909
Access	David Britt Road/I-185
Runway(s)	5/23 (6,998'x150'); 12/30 (3,999'x150')
Terminal s.f.	Passenger terminal, 51,900 s.f.; General aviation terminal, 3,200 s.f.
Operations (Year)	68,886 (1998)
Based Aircraft	136

Macon – Middle Georgia Regional

Owner/operator	City of Macon
Location	10,000 Terminal Drive, Macon, GA 31297
Access	SR 247
Runway(s)	5/23 (6,501'x150'); 13/31 (5,001'x150')
Terminal s.f.	Passenger terminal, 22,000 s.f.; General aviation terminal, 4,000 s.f.
Operations (Year)	41,751 (1998)
Based Aircraft	51

Savannah – Savannah International

Owner/operator Savannah Airport Commission
Location 400 Airways Avenue, Savannah, GA 31408
Access I-95
Runway(s) 9/27 (9,351'x150'); 18/36 (97,001'x150')
Terminal s.f. Air carrier terminal, 275,000 s.f.; General aviation terminal, 2,100 s.f.
Operations (Year) 94,269
Based Aircraft 92

Valdosta – Valdosta Regional

Owner/operator Valdosta-Lowndes County Airport Authority
Location 2614 Madison Highway, Valdosta, GA 31601
Access SR 31 to I-75
Runway(s) 4/22 (5,596'x100'); 13/31 (3,628'x75'); 17/35 (6,302'x150')
Terminal s.f. Air carrier terminal, 18,600 s.f.; General aviation terminal, 2,800 s.f.
Operations (Year) 49,028 (1998)
Based Aircraft 48

Appendix D

Air Carrier Airport Plans

Air Carrier Airport Plans

Atlanta – Hartsfield Atlanta International Airport

Hartsfield Atlanta International Airport has by far the most enplanements of all the air carrier airports in Georgia. Similarly, the planned improvements for the Hartsfield Airport require more resources than those needed for the other airports in Georgia. In an effort to reduce passenger delay and accommodate planned growth in air traffic, the Hartsfield Airport is planning several improvements to be implemented from 2000 to 2015 as summarized below.

Construction of a Fifth Runway

- Installation of a fifth runway 9000' in length
- Installation of a parallel taxiway

Concourse E Expansion and Landside Access

- Expansion to provide and international terminal (900,000 sq. ft.)
- Addition of nine gates
- Addition of 2000 parking spaces
- Connection to updated Aviation Boulevard Road system

Consolidated Rental Car Facilities

- Construction of consolidated rental car facilities including customer service and maintenance areas
- Addition of 9,000 to 10,000 parking spaces
- Installation of a people mover for access to main terminal
- Implementation of shuttle buses for access to international terminal

South Terminal Improvements

- Construction of additional South Terminal Section to contain 31 gates
- Construction of terminal access roadway network
- Addition of a parking structure
- Provision for a southern MARTA rail extension to the terminal

Existing Terminal Modification

- Modification of existing terminal to provide improved capacity including ticketing and baggage claim
- Modification of the access roadway network
- Modification of the people mover system

Airfield Improvements

- Extension of Runway 9L-27R to 13,300'
- Implementation of various taxiway improvements

Support Facilities

- Implementation of additional support facilities for flight kitchens, ground service, aircraft maintenance, and cargo
- Location of additional facilities between Runway 9R-27L and the proposed fifth runway
- Installation of roadway connections to the new support facilities

The following costs are anticipated for these programmed improvements from 1999 to 2009:

Construction of a Fifth Runway	\$869,000,000
Concourse E Expansion and Access	\$718,000,000
Consolidated Rental Car Facilities	\$275,000,000
South Terminal Improvements	\$1,800,000,000
Existing Terminal Modification	\$691,000,000
Other Airfield Improvement	\$381,000,000
Support Facilities	\$637,000,000
Total	\$5,371,000,000

Albany – Southwest Georgia Regional Airport

An examination of existing and anticipated future passenger activity was performed in 1992. Based on these projections, facility the recommended facilities were identified to accommodate airport demands. A phased implementation program was defined to improve identified deficiencies. This improvement program included the following stages with associated costs in 1994 dollars:

Stage I (1992-1997)	\$1,440,000
Stage II (1998-2002)	\$3,880,200
Stage III (2003-2012)	\$2,730,500
Total	\$8,050,700

The primary planned improvements are summarized by stage below.

Stage I

- Conversion of storage hangers for general use
- Installation of additional T-hangers

Stage II

- Rehabilitation of runway
- Rehabilitation of taxiway
- Rehabilitation and overlay of apron
- Implementation of High Intensity Runway Lighting (HIRL)
- Implementation of precision approach path indicators (PAPI)
- Conversion of storage hangers for general use
- Preparation of an airport master plan

Stage III

- Overlay of runway
- Overlay of taxiway
- Extension of apron
- Extension of terminal to provide an additional 2400 sq. ft.
- Addition of 58 parking spaces
- Installation of additional T-hangers

Athens – Ben Epps Field

An examination of existing and anticipated future passenger activity was performed in 1992. Based on these projections, facility the recommended facilities were identified to accommodate airport demands. A phased implementation program was defined to improve identified deficiencies. This improvement program included the following stages with associated costs in 1994 dollars:

Stage I (1992-1997)	\$4,920,000
Stage II (1998-2002)	\$3,688,250
Stage III (2003-2012)	\$3,848,000
Total	\$12,456,250

The primary planned improvements are summarized by stage below.

Stage I

- Conversion of storage hangers for general use
- Installation of additional T-hangers
- Extension of terminal to provide an additional 1500 sq. ft.
- Implementation of (PAPI)
- Implementation of Medium Intensity Approach Lighting System with Runway Alignment Indicator Lights (MALSR)
- Implementation of Glideslope
- Installation of Medium Intensity Taxiway Lighting (MITL)
- Extension of taxiway

Stage II

- Overlay of runway
- Overlay of taxiway
- Overlay of apron
- Implementation of High Intensity Runway Lighting (HIRL)
- Conversion of storage hangers for general use
- Installation of additional T-hangers
- Extension of terminal to provide an additional 4300 sq. ft.
- Addition of 35 parking spaces
- Preparation of an airport master plan

Stage III

- Overlay of runway
- Overlay of taxiway
- Extension of apron
- Conversion of storage hangers for general use
- Installation of additional T-hangers

Augusta – Bush Field

An examination of existing and anticipated future passenger activity was performed in 1992. Based on these projections, facility the recommended facilities were identified to accommodate airport demands. A phased implementation program was defined to

improve identified deficiencies. This improvement program included the following stages with associated costs in 1994 dollars:

Stage I (1992-1997)	\$1,860,800
Stage II (1998-2002)	\$6,815,160
Stage III (2003-2012)	\$8,984,520
Total	\$17,660,480

The primary planned improvements are summarized by stage below.

Stage I

- Extension of taxiway
- Installation of Medium Intensity Taxiway Lighting (MITL)
- Implementation of (PAPI)
- Extension of terminal to provide an additional 4000 sq. ft.
- Addition of 59 parking spaces
- Preparation of an airport master plan

Stage II

- Installation of additional T-hangers
- Rehabilitation of runway
- Rehabilitation of taxiway
- Rehabilitation of apron
- Extension of terminal to provide an additional 17,400 sq. ft.
- Addition of 202 parking spaces

Stage III

- Overlay of runway
- Overlay of taxiway
- Overlay of apron
- Extension of terminal to provide an additional 34,600 sq. ft.
- Addition of 403 parking spaces
- Preparation of an airport master plan

Brunswick – Glynco Jetport

An examination of existing and anticipated future passenger activity was performed in 1992. Based on these projections, facility the recommended facilities were identified to accommodate airport demands. A phased implementation program was defined to improve identified deficiencies. This improvement program included the following stages with associated costs in 1994 dollars:

Stage I (1992-1997)	\$1,500,000
Stage II (1998-2002)	\$5,365,680
Stage III (2003-2012)	\$1,616,200
Total	\$8,481,880

The primary planned improvements are summarized by stage below.

Stage I

- Conversion of storage hangers for general use
- Installation of additional T-hangers

Stage II

- Rehabilitation of runway
- Rehabilitation of taxiway
- Overlay of apron
- Implementation of an Automatic Weather Observing System (AWOS-3)
- Conversion of storage hangers for general use
- Installation of additional T-hangers
- Extension of terminal to provide an additional 2400 sq. ft.
- Preparation of an airport master plan

Stage III

- Installation of a new Apron
- Installation of an access road
- Installation of additional T-hangers
- Extension of terminal to provide an additional 7,500 sq. ft.
- Addition of parking spaces (1370 sq. yds.)

Columbus – Columbus Metropolitan Airport

An examination of existing and anticipated future passenger activity was performed in 1992. Based on these projections, facility the recommended facilities were identified to accommodate airport demands. A phased implementation program was defined to improve identified deficiencies. This improvement program included the following stages with associated costs in 1994 dollars:

Stage I (1992-1997)	\$372,000
Stage II (1998-2002)	\$6,262,400
Stage III (2003-2012)	\$7,406,940
Total	\$14,041,340

The primary planned improvements are summarized by stage below.

Stage I

- Overlay of apron
- Implementation of (PAPI)

Stage II

- Extension of runway including land acquisition
- Extension of taxiway
- Rehabilitation of taxiway
- Extension of apron
- Rehabilitation of apron
- Implementation of High Intensity Runway Lighting (HIRL)
- Installation of Medium Intensity Taxiway Lighting (MITL)
- Conversion of storage hangers for general use
- Extension of terminal to provide an additional 6300 sq. ft.
- Addition of 127 parking spaces
- Preparation of an airport master plan

Stage III

- Rehabilitation of runway
- Overlay of runway
- Overlay of taxiway
- Installation of new apron

- Implementation of High Intensity Runway Lighting (HIRL)
- Extension of terminal to provide an additional 23,800 sq. ft.
- Addition of 293 parking spaces

Macon – Middle Georgia Regional Airport

An examination of existing and anticipated future passenger activity was performed in 1992. Based on these projections, facility the recommended facilities were identified to accommodate airport demands. A phased implementation program was defined to improve identified deficiencies. This improvement program included the following stages with associated costs in 1994 dollars:

Stage I (1992-1997)	\$3,400,000
Stage II (1998-2002)	\$2,434,275
Stage III (2003-2012)	\$4,622,000
Total	\$10,456,275

The primary planned improvements are summarized by stage below.

Stage I

- Implementation of (PAPI)
- Installation of additional T-hangers
- Conversion of storage hangers for general use

Stage II

- Rehabilitation of runway
- Rehabilitation of apron
- Implementation of High Intensity Runway Lighting (HIRL)
- Installation of additional T-hangers
- Conversion of storage hangers for general use
- Preparation of an airport master plan

Stage III

- Overlay of runway
- Overlay of taxiway
- Overlay of apron
- Installation of additional T-hangers

- Conversion of storage hangers for general use
- Extension of terminal to provide an additional 8800 sq. ft.

Savannah – Savannah International Airport

An examination of existing and anticipated future passenger activity was performed in 1992. Based on these projections, facility the recommended facilities were identified to accommodate airport demands. A phased implementation program was defined to improve identified deficiencies. This improvement program included the following stages with associated costs in 1994 dollars:

Stage I (1992-1997)	\$180,000
Stage II (1998-2002)	\$3,470,000
Stage III (2003-2012)	\$14,454,000
Total	\$18,108,000

The primary planned improvements are summarized by stage below.

Stage I

- Implementation of (PAPI)
- Installation of additional T-hangers

Stage II

- Rehabilitation of taxiway
- Overlay of apron
- Implementation of High Intensity Taxiway Lighting (HITL)
- Installation of additional T-hangers
- Conversion of storage hangers for general use

Stage III

- Rehabilitation of runway
- Overlay of runway
- Overlay of taxiway
- Extension of apron
- Implementation of High Intensity Runway Lighting (HIRL)
- Installation of additional T-hangers
- Conversion of storage hangers for general use

- Extension of terminal to provide an additional 11,250 sq. ft.
- Addition of 610 parking spaces
- Preparation of an airport master plan

Valdosta – Valdosta Regional Airport

An examination of existing and anticipated future passenger activity was performed in 1992. Based on these projections, facility the recommended facilities were identified to accommodate airport demands. A phased implementation program was defined to improve identified deficiencies. This improvement program included the following stages with associated costs in 1994 dollars:

Stage I (1992-1997)	\$485,000
Stage II (1998-2002)	\$1,940,850
Stage III (2003-2012)	\$3,376,360
Total	\$5,802,210

The primary planned improvements are summarized by stage below.

Stage I

- Implementation of (PAPI)
- Implementation of NDB
- Installation of additional T-hangers
- Conversion of storage hangers for general use

Stage II

- Overlay of runway
- Overlay of taxiway
- Overlay of apron
- Installation of additional T-hangers
- Conversion of storage hangers for general use
- Addition of 9 parking spaces
- Preparation of an airport master plan

Stage III

- Rehabilitation of runway
- Rehabilitation of taxiway

- Extension of apron
- Implementation of High Intensity Runway Lighting (HIRL)
- Installation of additional T-hangers
- Conversion of storage hangers for general use

Appendix E

Georgia State Aviation System Plan

Georgia State Aviation System Plan

■ Level III Airports – Business Airports of Regional Impact

Current Level III

Americus – Souther Field

Owner/operator	City of Americus
Location	Southerfield Road, Americus, GA 31709
Access	SR 49
Runway(s)	5/23 (5,021'x100'); 9/27 (3,787'x75')
Terminal s.f.	4,000
Operations (Year)	13,600 (1998)
Based Aircraft	27

Atlanta – Dekalb-Peachtree

Owner/operator	Dekalb County
Location	2000 Airport Road, Chamblee, GA 30341
Access	Clairmont Road, SR 155, I-85
Runway(s)	2L/20R (3,744'x150'); 2R/20L (6,001'x100'); 9/27 (3,378'x150')
Terminal s.f.	
Operations (Year)	233,233 (1998)
Based Aircraft	593

Atlanta – Fulton County Airport-Brown Field

Owner/operator	Fulton County
Location	3952 Aviation Circle, N.W., Atlanta, GA 30336
Access	SR 139/SR 70, I-20
Runway(s)	8/26 (5,976'x100'); 9/27 (2,801'x60'); 14/32 (4,158'x100')
Terminal s.f.	
Operations (Year)	80,027 (1998)
Based Aircraft	310

Dublin – W. H. “Bud” Barron

Owner/operator	Laurens County
Location	P.O. Box 2011 (off SR 19), Dublin, GA 31040
Access	U.S. 80/SR 19
Runway(s)	2/20 (6,000'x150'); 14/32 (5,000'x150')
Terminal s.f.	4,500
Operations (Year)	25,650
Based Aircraft	28

LaGrange – Callaway

Owner/operator	City of LaGrange and Troup County
Location	200 Airport Pkwy., LaGrange, GA 30240
Access	Forest Avenue and U.S. 29/SR 109
Runway(s)	3/21 (5,000'x100'); 13/31 (5,600'x150')
Terminal s.f.	4,000
Operations (Year)	8,190 (1998)
Based Aircraft	46

Lawrenceville – Gwinnett County-Briscoe Field

Owner/operator	Gwinnett County
Location	P.O. Box 1446 (Airport Road/SR 316), Lawrenceville, GA 30246
Access	Airport Road/SR 316
Runway(s)	7/25 (6,000'x100')
Terminal s.f.	
Operations (Year)	107,518 (1998)
Based Aircraft	280

Rome – Richard B. Russell

Owner/operator	Floyd County
Location	304 Russell Field, Rome, GA 30161
Access	Airport Road/U.S. 27/SR 1
Runway(s)	1/19 (6,000'x150'); 7/25 (4,497'x150'); 14/32 (3,596'x75')
Terminal s.f.	3,500
Operations (Year)	115,000 (1998)
Based Aircraft	85

Winder – Winder-Barrow

Owner/operator	Barrow County Airport Authority
Location	841 Ronald Wood Road, Winder, GA 30680
Access	U.S. 29
Runway(s)	5/23 (3,610'x100'); 13/31 (5,500'x100')
Terminal s.f.	3,060
Operations (Year)	43,500 (1998)
Based Aircraft	109

Current Level II – Proposed Level III

Bainbridge – Decatur County Industrial Air Park

Owner/operator	Decatur County
Location	P.O. Box 735 (U.S. 27/SR 1), Bainbridge, GA 31717
Access	U.S. 27/SR 1
Runway(s)	9/27 (5,002'x150'); 14/32 (5,003'x100')
Terminal s.f.	4,000
Operations (Year)	11,000 (1998)
Based Aircraft	42

Blakely – Early County

Owner/operator	Early County
Location	P.O. Box 693(SR 62), Blakely, GA 31723
Access	SR 62
Runway(s)	5/23 (5,000'x60')
Terminal s.f.	1,000
Operations (Year)	8,000
Based Aircraft	5

Brunswick – Malcolm McKinnon

Owner/operator	Glynn County
Location	Demere Road, St. Simon's Island
Access	Demere Road/F.J. Torras Causeway/U.S. 17, SR 25/I-95
Runway(s)	4/22 (5,421'x150'); 16/34 (3,313'x75')
Terminal s.f.	7,350
Operations (Year)	42,800 (1998)
Based Aircraft	86

Calhoun – Tom B. David Field

Owner/operator	Calhoun – Gordon County Airport Authority
Location	1957 U.S. 41, S.W., Calhoun, GA 30701
Access	U.S. 41/SR 3
Runway(s)	17/35 (4,609'x75')
Terminal s.f.	500
Operations (Year)	12,600 (1998)
Based Aircraft	38

Carrollton – West Georgia Regional-Gray Field

Owner/operator	West Georgia Airport Authority
Location	P.O. Box 304 (Regional Airport Road), Bremen, GA 30110
Access	Regional Airport Road/U.S. 27/SR 1
Runway(s)	16/34 (5,001'x100')
Terminal s.f.	1,000
Operations (Year)	31,000 (1998)
Based Aircraft	66

Dalton – Dalton Municipal

Owner/operator	City of Dalton
Location	P.O. Box 831 (Airport Road), Dalton, GA 30720
Access	Airport Road/U.S. 76/SR 52
Runway(s)	14/32 (5,000'x100')
Terminal s.f.	2,590
Operations (Year)	25,200 (1998)
Based Aircraft	71

Douglas – Douglas Municipal

Owner/operator	City of Douglas
Location	P.O. Box 470 (Elton D. Brooks Drive), Douglas, GA 31534
Access	Elton D. Brooks Drive/U.S. 441/SR 31
Runway(s)	4/22 (5,000'x100')
Terminal s.f.	2,000
Operations (Year)	20,500 (1998)
Based Aircraft	28

Eastman – Heart of Georgia Regional

Owner/operator	Heart of Georgia Regional Airport Authority
Location	Route 5, Box 262 (Bethlehem Road), Eastman, GA 31203
Access	CR S1294/SR 46
Runway(s)	2/20 (5,100'x75')
Terminal s.f.	400
Operations (Year)	20,000 (1998)
Based Aircraft	25

Gainesville – Lee Gilmer Memorial

Owner/operator	City of Gainesville
Location	P.O. Box 2496 (Queen City Parkway), Gainesville, GA 30501
Access	SR 60/I-985
Runway(s)	4/22 (5,004'x100'); 11/29 (4,001'x100')
Terminal s.f.	6,300
Operations (Year)	73,000 (1998)
Based Aircraft	102

Jesup – Jesup-Wayne County

Owner/operator	Wayne County
Location	P.O. Box 217 (Airport Road), Jesup, GA 31545
Access	CR 243/U.S. 301/SR 23
Runway(s)	10/28 (4,920'x75')
Terminal s.f.	2,250
Operations (Year)	5,000 (1998)
Based Aircraft	5

Milledgeville – Baldwin County

Owner/operator	Baldwin County
Location	216 Airport Road, N.E., Milledgeville, GA 31061
Access	Sinclair Dam Road/U.S. 441/SR 24
Runway(s)	10/28 (5,000'x100')
Terminal s.f.	1,600
Operations (Year)	10,000 (1998)
Based Aircraft	32

Newnan – Newnan-Coweta County

Owner/operator	Newnan & Coweta County Airport Authority
Location	115 Airport Road, Newnan, GA 30263
Access	U.S. 29/SR 14
Runway(s)	14/32 (5,007'x100')
Terminal s.f.	4,200
Operations (Year)	25,400 (1998)
Based Aircraft	72

Statesboro – Statesboro Municipal

Owner/operator	City of Statesboro & Bulloch County
Location	Airport Boulevard, Statesboro, GA 30458
Access	U.S. 301/SR 73
Runway(s)	5/23 (4,381'x100'); 14/32 (5,502'x100')
Terminal s.f.	5,000
Operations (Year)	20,000 (1998)
Based Aircraft	30

Thomaston – Thomaston-Upson County

Owner/operator	City of Thomaston
Location	2347 Del Ray Road, Thomaston, GA 30286
Access	Del Ray Road/SR 36
Runway(s)	2/30 (5,001'x75')
Terminal s.f.	4,700
Operations (Year)	22,800 (1998)
Based Aircraft	42

Thomasville- Thomasville Municipal

Owner/operator	City of Thomasville
Location	882 Airport Road, Thomasville, GA 31792
Access	Airport Road/SR 122
Runway(s)	4/22 (5,500'x100'); 14/32 (5,000'x150')
Terminal s.f.	4,000
Operations (Year)	32,000 (1998)
Based Aircraft	52

Thomson – Thomson-McDuffie County

Owner/operator	City of Thomson & McDuffie County
Location	501 John T. Lane Road, Thomson, GA 30824
Access	U.S. 78/SR 17
Runway(s)	10/28 (5,004'x100')
Terminal s.f.	none
Operations (Year)	24,000 (1998)
Based Aircraft	56

Tifton – Henry Tift Meyers

Owner/operator	Tifton & Tift County Airport Authority
Location	P.O. Box 826 (U.S. 41/SR 7), Tifton, GA 31794
Access	U.S. 41/SR 7
Runway(s)	3/21 (3,389'x75'); 9/27 (3,805'x75'); 15/33 (4,994'x150')
Terminal s.f.	5,000
Operations (Year)	10,400 (1998)
Based Aircraft	41

Vidalia – Vidalia Municipal

Owner/operator	City of Vidalia
Location	P.O. Box 280 (Airport Road), Vidalia, GA 30474
Access	Airport Road/U.S. 280/SR 30
Runway(s)	6/24 (5,003'x150'); 13/31 (5,000'x150')
Terminal s.f.	1,200
Operations (Year)	16,500
Based Aircraft	20

Waycross – Waycross-Ware County

Owner/operator	City of Waycross & Ware County
Location	2800 Smith Drive, Waycross, GA 31501
Access	Smith Road/U.S. 1,23/SR 4; Kern Drive/U.S. 82/SR 520
Runway(s)	5/23 (5,035'x100'); 13/31 (3,528'x100'); 18/36 (5,230'x150')
Terminal s.f.	5,000
Operations (Year)	17,000 (1998)
Based Aircraft	42

Current Level I – Proposed Level III

Blairsville – Blairsville

Owner/operator	City of Blairsville
Location	2223 Airport Road, Blairsville, GA 30512
Access	Airport Road/Old U.S. 76
Runway(s)	7/25 (3,200'x75')
Terminal s.f.	1,200
Operations (Year)	6,000 (1998)
Based Aircraft	22

Cornelia – Habersham County

Owner/operator	Habersham County
Location	Route 1, Box 1250 (Airport Road), Cornelia, GA 30531
Access	Airport Road/U.S. 23/SR 365
Runway(s)	6/24 (4,200'x75')
Terminal s.f.	800
Operations (Year)	16,400 (1998)
Based Aircraft	50

Covington – Covington Municipal

Owner/operator	City of Covington
Location	P.O. Box 1527 (Airport Road), Covington, GA 30209
Access	Airport Road/SR 81 Loop/I-20
Runway(s)	10/28 (4,203'x75')
Terminal s.f.	1,960
Operations (Year)	41,904
Based Aircraft	40

Louisville – Louisville Municipal

Owner/operator	City of Louisville
Location	P.O. Box 527, Louisville, GA 30434
Access	SR 17
Runway(s)	13/31 (3,500'x75')
Terminal s.f.	200
Operations (Year)	8,000 (1998)
Based Aircraft	20

■ Level II – Business Airports of Local Impact

Current Level II – Maintain as Level II

Alma – Bacon County

Owner/operator	Bacon County
Location	P.O. Box 450 (SR 37), Alma, GA 31520
Access	SR 37/I-75
Runway(s)	5/23 (4,000'x100'); 15/33 (4,000'x100')
Terminal s.f.	4,800
Operations (Year)	6,120 (1998)
Based Aircraft	31

Atlanta – Peachtree City-Falcon Field

Owner/operator	Peachtree City Airport Authority
Location	P.O. Box 2371 (1130 Echo Court), Peachtree City, GA 30269
Access	Dividend Drive/SR 54
Runway(s)	13/31 (5,220'x100')
Terminal s.f.	
Operations (Year)	49,307 (1998)
Based Aircraft	107

Baxley – Baxley Municipal

Owner/operator	City of Baxley
Location	P.O. Box 180 (U.S. 1; SR 4), Baxley, GA 31513
Access	U.S. 1/SR 4
Runway(s)	8/26 (5,000'x75')
Terminal s.f.	2,500
Operations (Year)	10,500 (1998)
Based Aircraft	17

Cartersville – Cartersville

Owner/operator	Cartersville-Bartow Airport Authority
Location	P.O. Box 307 (SR 61), Cartersville, GA 30120
Access	SR 61/SR 113
Runway(s)	1/19 (5,750'x100')
Terminal s.f.	3,000
Operations (Year)	53,000 (1998)
Based Aircraft	133

Cordele – Crisp County-Cordele

Owner/operator	Crisp County
Location	1701 N. Second Street (Blackshear Road), Cordele, GA 31051
Access	Blackshear Road/SR 257/I-75
Runway(s)	5/23 (5,007'x100'); 10/28 (5,003'x150')
Terminal s.f.	1,000
Operations (Year)	24,100
Based Aircraft	20

Donalsonville – Donalsonville Municipal

Owner/operator	City of Donalsonville
Location	P.O. Box 311 (SR 39), Donalsonville, GA 31745
Access	SR 39/SR 91/U.S. 84
Runway(s)	18/36 (5,184'x100')
Terminal s.f.	816
Operations (Year)	8,500
Based Aircraft	6

Fitzgerald – Fitzgerald Municipal

Owner/operator	City of Fitzgerald and Ben Hill County
Location	Box 963 (CR 2219), Fitzgerald, GA 31750
Access	CR 2219/SR 11
Runway(s)	1/19 (5,002'x100'); 15/33 (3,400'x300'-turf)
Terminal s.f.	400
Operations (Year)	12,225
Based Aircraft	23

Marietta – Cobb County-McCollum Field*

Owner/operator	Cobb County
Location	1723 McCollum Pkwy., Kennesaw, GA 30144
Access	McCollum Pkwy./U.S. 41/SR 293/SR 3
Runway(s)	9/27 (5,355'x74')
Terminal s.f.	
Operations (Year)	94,650
Based Aircraft	335

Moultrie – Moultrie Municipal

Owner/operator	City of Moultrie
Location	P.O. Box 3057 (U.S. 319), Moultrie, GA 31776
Access	U.S. 319/SR 35
Runway(s)	4/22 (5,127'x100'); 16/34 (3,878'x75')
Terminal s.f.	2,000
Operations (Year)	14,100
Based Aircraft	23

Moultrie – Spence Field

Owner/operator	City of Moultrie
Location	P.O. Box 580 (SR 133), Moultrie, GA 31768
Access	SR 133
Runway(s)	14/32 (4,500'x75')
Terminal s.f.	none
Operations (Year)	10,000
Based Aircraft	9

Perry – Perry-Houston County

Owner/operator	Perry-Houston County Airport Authority
Location	500 Airport Road, Perry, GA 31069
Access	Airport Road/U.S. 341/SR 7
Runway(s)	18/36 (5,002'x100')
Terminal s.f.	2,600
Operations (Year)	15,000
Based Aircraft	45

Pine Mountain – Callaway Gardens-Harris County

Owner/operator	Harris County
Location	789 Sky Meadow Drive, Pine Mountain, GA 31822
Access	Sky Meadow Dr./SR 18
Runway(s)	9/27 (5,001'x100')
Terminal s.f.	800
Operations (Year)	7,500
Based Aircraft	3

St. Mary's – St. Mary's

Owner/operator	St. Mary's Airport Authority
Location	418 Osborne Street (SR 40), St. Mary's, GA 31558
Access	SR 40
Runway(s)	4/22 (5,000'x100'); 13/31 (4,000'x75')
Terminal s.f.	1,000
Operations (Year)	12,250
Based Aircraft	18

Sandersville – Kaolin Field

Owner/operator	Washington County
Location	P.O. Box 598 (Kaolin Road), Sandersville, GA 31082
Access	Kaolin Road/SR 242/SR 15
Runway(s)	12/30 (5,015'x75')
Terminal s.f.	900
Operations (Year)	10,150
Based Aircraft	7

Swainsboro – Emanuel County

Owner/operator	Emanuel County & City of Swainsboro
Location	P.O. Box 600 (SR 57), Swainsboro, GA 30401
Access	SR 57
Runway(s)	13/31 (5,040'x75')
Terminal s.f.	none
Operations (Year)	4,000
Based Aircraft	6

Sylvania – Plantation Air Park

Owner/operator	Sylvania-Screven Airport Authority
Location	538 Beacon Road, Sylvania, GA 30467
Access	CR 87/SR 21
Runway(s)	5/23 (5,000'x100'); 15/33 (3,800'x75')
Terminal s.f.	2,200
Operations (Year)	10,500
Based Aircraft	25

Current Level I – Proposed Level II

Butler – Butler Municipal

Owner/operator	Taylor County
Location	Box 522 (U.S. 19), Butler, GA 31006
Access	U.S. 19/SR 3
Runway(s)	6/24 (2,400'x500'-turf); 18/36 (2,700'x60')
Terminal s.f.	none
Operations (Year)	7,500
Based Aircraft	19

Claxton – Claxton-Evans County

Owner/operator	City of Claxton
Location	P.O. Box 33 (U.S. 301/25), Claxton, GA 30417
Access	U.S. 301/SR 73
Runway(s)	9/27 (5,012'x75')
Terminal s.f.	6,400
Operations (Year)	3,800
Based Aircraft	9

Dawson – Dawson Municipal

Owner/operator	City of Dawson and Terrell County
Location	750 Jim Hayes Road, Dawson, GA 31742
Access	U.S. 82/SR 520
Runway(s)	13/31 (4,510'x75')
Terminal s.f.	1,000
Operations (Year)	23,500
Based Aircraft	58

Hampton – Clayton County-Tara Field*

Owner/operator	Clayton County
Location	474 Mt. Pleasant Road, Hampton, GA 30228
Access	Mt. Pleasant Road/Lower Woolsey Road/U.S. 19,41/SR 3
Runway(s)	6/24 (4,503'x75')
Terminal s.f.	
Operations (Year)	27,500
Based Aircraft	126

Homerville – Homerville

Owner/operator	City of Homerville
Location	P.O. Box 535 (U.S. 441/SR 89), Homerville, GA 31634
Access	U.S. 441/SR 89
Runway(s)	14/32 (3,999'x150')
Terminal s.f.	none
Operations (Year)	900
Based Aircraft	3

Jasper – Pickens County

Owner/operator	Pickens County
Location	Route 4 Box 111 (SR 5), Jasper, GA 30143
Access	(SR 5)
Runway(s)	16/34 (3,600'x75')
Terminal s.f.	800
Operations (Year)	5,300
Based Aircraft	34

Jefferson – Jackson County

Owner/operator	Jackson County
Location	Lyle Field Road/SR 82, Jefferson, GA 30349
Access	SR 82/Dry Pond Road/I-85
Runway(s)	9/27 (2,490'x60'); 16/34 (4,108'x75')
Terminal s.f.	1,200
Operations (Year)	14,000
Based Aircraft	66

LaFayette – Barwick-LaFayette

Owner/operator	City of LaFayette
Location	499 Gasque Drive (Foster Mill Drive), LaFayette, GA 30728
Access	Foster Mill Drive/U.S. 27/SR 1
Runway(s)	2/20 (4,250'x50')
Terminal s.f.	200
Operations (Year)	6,000
Based Aircraft	44

Toccoa – Toccoa-R.G. Letourneau Field

Owner/operator	Toccoa-Stephens County Authority
Location	P.O. Box 494 (off U.S. 123/SR 13), Toccoa, GA 30577
Access	U.S. 123/SR 13
Runway(s)	2/20 (4,003'x75'); 9/27 (2,951'x50')
Terminal s.f.	10,000
Operations (Year)	30,000
Based Aircraft	41

Washington – Washington-Wilkes County

Owner/operator	City of Washington
Location	4030 Tignall Road, Washington, GA 30673
Access	U.S. 78/SR 10
Runway(s)	13/31 (4,020'x75')
Terminal s.f.	1,100
Operations (Year)	5,200
Based Aircraft	14

■ **Level I – Minimum Standard Utility Airports**

Current Level I – Maintain as Level I

Augusta – Daniel Field

Owner/operator	Augusta-Richmond County
Location	Highland Avenue, Augusta, GA 30904
Access	Highland Avenue/U.S. 278/SR 10
Runway(s)	5/23 (3,900'x100'); 11/29 (3,732'x150')
Terminal s.f.	3,000
Operations (Year)	42,600
Based Aircraft	79

Cairo – Cairo-Grady County

Owner/operator	City of Cairo
Location	Airport Road, Cairo, GA 31728
Access	Airport Road/U.S. 84/SR 38
Runway(s)	12/30 (4,000'x75')
Terminal s.f.	1,000
Operations (Year)	8,000
Based Aircraft	17

Camilla – Camilla-Mitchell County

Owner/operator	City of Camilla
Location	P.O. Box 328 (SR 97), Camilla, GA 31730
Access	SR 97
Runway(s)	8/26 (4,005'x60')
Terminal s.f.	1,200
Operations (Year)	12,000 (1998)
Based Aircraft	20

Cedartown – Cornelius-Moore Field

Owner/operator	Polk County
Location	Airport Road, Cedartown, GA 30125
Access	Airport Road/U.S. 278/SR 6
Runway(s)	10/28 (4,003'x75')
Terminal s.f.	600
Operations (Year)	11,250 (1998)
Based Aircraft	24

Hazlehurst – Hazlehurst

Owner/operator	City of Hazlehurst
Location	210 Latimer Street, Hazlehurst, GA 31539
Access	CR 5/U.S. 221/U.S. 23,341/SR 27,19
Runway(s)	14/32 (4,508'x75')
Terminal s.f.	none
Operations (Year)	6,160 (1998)
Based Aircraft	9

Macon – Herbert Smart Downtown

Owner/operator	City of Macon
Location	100 Terminal Drive, Macon, GA 31297
Access	Airport Road/U.S. 23/SR 87/I-16
Runway(s)	10/28 (4,695'x150'); 15/33 (3,600'x75')
Terminal s.f.	800
Operations (Year)	19,500
Based Aircraft	19

McRae – Telfair-Wheeler

Owner/operator	Airport Authority
Location	P.O. Box 485(U.S. 441), McRae, GA 31055
Access	U.S. 441/SR 31
Runway(s)	2/20 (4,011'x75')
Terminal s.f.	none
Operations (Year)	5,000 (1998)
Based Aircraft	12

Millen – Millen

Owner/operator	City of Millen and Jenkins County
Location	P.O. Box 929(U.S. 25), Millen, GA 30442
Access	U.S. 25/SR 121
Runway(s)	17/35 (4,000'x60')
Terminal s.f.	600
Operations (Year)	2,500 (1998)
Based Aircraft	1

Montezuma – Dr. C.P. Savage, Sr.

Owner/operator	City of Montezuma
Location	P.O. Box 388 (Prison Camp Road), Montezuma, GA 31063
Access	Prison Camp Road/SR 224/SR 26
Runway(s)	18/36 (4,200'x75')
Terminal s.f.	
Operations (Year)	4,000 (1998)
Based Aircraft	5

Nashville – Berrien County

Owner/operator	Berrien County
Location	P.O. Box 446 (SR 76), Nashville, GA 31639
Access	SR 76
Runway(s)	9/27 (4,000'x75')
Terminal s.f.	500
Operations (Year)	6,000 (1998)
Based Aircraft	16

Below Level I – Upgrade to Level I

Adel – Cook County

Owner/operator	Cook County
Location	P.O. Box 652 (SR 37), Adel, GA 31620
Access	SR 37/I-75
Runway(s)	5/23 (4,000'x100'); 15/33 (4,000'x100')
Terminal s.f.	4,800
Operations (Year)	6,120
Based Aircraft	31

Ashburn – Turner County

Owner/operator	Turner County
Location	Box 191 (CR 11), Ashburn, GA 31714
Access	CR 11/CR 33/I-75
Runway(s)	16/34 (3,204'x50')
Terminal s.f.	none
Operations (Year)	4,500 (1998)
Based Aircraft	4

Buena Vista – Marion County

Owner/operator	Marion County
Location	P.O. Box 481 (SR 41), Buena Vista, GA 31803
Access	SR 41
Runway(s)	14/32 (3,200'x75')
Terminal s.f.	none
Operations (Year)	600 (1998)
Based Aircraft	none

Canon – Franklin County

Owner/operator	Franklin County
Location	P.O. Box 655 (Old Carnesville Road), Royston, GA 30662
Access	Old Carnesville Road/SR 17
Runway(s)	7/25 (3,500'x75')
Terminal s.f.	none
Operations (Year)	5,500
Based Aircraft	19

Canton – Cherokee County

Owner/operator	Cherokee County Airport Authority
Location	191 Jarvis Street, Canton, GA 30334
Access	I-575
Runway(s)	4/22 (3,414'x75')
Terminal s.f.	900
Operations (Year)	25,100 (1998)
Based Aircraft	40

Cochran – Cochran

Owner/operator	City of Cochran
Location	Route 3 Airport Road, Cochran, GA 31014
Access	SR 126
Runway(s)	5/23 (3,202'x50')
Terminal s.f.	2,400
Operations (Year)	8,000 (1998)
Based Aircraft	11

Cuthbert – Cuthbert-Randolph

Owner/operator	City of Cuthbert-Randolph County
Location	P.O. Box 234(U.S. 27), Cuthbert, GA 31740
Access	U.S. 27/SR 1
Runway(s)	18/36 (3,000'x60')
Terminal s.f.	none
Operations (Year)	2,000 (1998)
Based Aircraft	2

Dahlonega – Lumpkin County-Wimpy's

Owner/operator	Lumpkin County
Location	280 Courthouse Hill (Wausega Road), Dahlonega, GA 30533
Access	Wausega Road/U.S. 19/SR 60
Runway(s)	15/33 (3,035'x50')
Terminal s.f.	350
Operations (Year)	4,600
Based Aircraft	17

Elberton – Elbert County-Patz Field

Owner/operator	Elbert County
Location	1136 Von Trina Road (Middleton Road), Elberton, GA 30635
Access	Middleton Road/SR 72
Runway(s)	10/28 (4,000'x75')
Terminal s.f.	1,092
Operations (Year)	7,450 (1998)
Based Aircraft	14

Ellijay – Gilmer County

Owner/operator	Gilmer County
Location	1 West Side Square, Ellijay, GA 30540
Access	SR 5 Alt.
Runway(s)	3/21 (3,500'x50')
Terminal s.f.	none
Operations (Year)	2,500 (1998)
Based Aircraft	4

Folkston – Davis Field

Owner/operator	Charlton County
Location	100 S. Third Street (SR 23), Folkston, GA 31537
Access	SR 23
Runway(s)	18/36 (2,500'x50')
Terminal s.f.	none
Operations (Year)	4,200
Based Aircraft	5

Greensboro – Greene County Regional

Owner/operator	Greene County
Location	1140 Tal Lewis Road(U.S. 278), White Plains, GA 30678
Access	U.S. 278/SR 12
Runway(s)	6/24 (5,000'x75')
Terminal s.f.	none
Operations (Year)	6,520 (1998)
Based Aircraft	17

Griffin – Griffin-Spalding County

Owner/operator	City of Griffin
Location	1035 S. Hill Street, Griffin, GA 30224
Access	U.S. 41 Bus.
Runway(s)	14/32 (3,701'x75')
Terminal s.f.	2,000
Operations (Year)	28,100 (1998)
Based Aircraft	84

Hawkinsville – Hawkinsville-Pulaski County

Owner/operator	City of Hawkinsville
Location	319 Broad Street (U.S. 341), Hawkinsville, GA 31036
Access	U.S. 341/SR 27
Runway(s)	10/28 (3,000'x60')
Terminal s.f.	none
Operations (Year)	5,000 (1998)
Based Aircraft	5

Hinesville – Liberty County

Owner/operator	Liberty County
Location	P.O. Box 829 (Slaton Drive), Hinesville, GA 31313
Access	Slaton Drive/U.S. 82/SR 38
Runway(s)	14/32 (3,698'x75')
Terminal s.f.	864
Operations (Year)	4,500 (1998)
Based Aircraft	11

Jekyll Island – Jekyll Island

Owner/operator	Jekyll Island Authority
Location	375 Riverview Drive, Jekyll Island, GA 31520
Access	Riverview Drive/SR 520
Runway(s)	18/36 (3,711'x75')
Terminal s.f.	1,500
Operations (Year)	2,000
Based Aircraft	none

Madison – Madison Municipal

Owner/operator	City of Madison
Location	P.O. Box 32, Madison, GA 30650
Access	U.S. 278/SR 12
Runway(s)	14/32 (3,806'x50')
Terminal s.f.	
Operations (Year)	3,250 (1998)
Based Aircraft	11

Metter – Metter Municipal

Owner/operator	City of Metter & Candler County
Location	P.O. Box 178(SR 23), Metter, GA 30439
Access	SR 23/I-16
Runway(s)	10/28 (3,610'x75')
Terminal s.f.	480
Operations (Year)	7,900 (1998)
Based Aircraft	24

Monroe – Monroe-Walton County

Owner/operator	City of Monroe
Location	Box 1249, Monroe, GA 30655
Access	Towler Street/SR 11
Runway(s)	3/21 (4,112'x60')
Terminal s.f.	300
Operations (Year)	12,000 (1998)
Based Aircraft	33

Nahunta – Brantley County

Owner/operator	Brantley County
Location	P.O. Box 398 (U.S. 84), Nahunta, GA 31553
Access	U.S. 84/SR 320
Runway(s)	1/19 (3,000'x50')
Terminal s.f.	none
Operations (Year)	1,000
Based Aircraft	2

Quitman – Quitman-Brooks County

Owner/operator	City of Quitman
Location	P.O. Box 495, Quitman, GA 31643
Access	CR S561/U.S. 84/SR 38
Runway(s)	9/27 (3,600'x60'); 13/31 (2,950'x300'-turf)
Terminal s.f.	none
Operations (Year)	11,000 (1998)
Based Aircraft	24

Reidsville – Reidsville

Owner/operator	City of Reidsville
Location	Box 751 (SR 147), Reidsville, GA 30453
Access	SR 147
Runway(s)	11/29 (3,803'x75')
Terminal s.f.	none
Operations (Year)	4,000 (1998)
Based Aircraft	4

Soperton – Treutlen County

Owner/operator	Treutlen County
Location	P.O. Box 88, Soperton, GA 30457
Access	U.S. 221/SR 56; SR 46
Runway(s)	15/33 (3,000'x50')
Terminal s.f.	none
Operations (Year)	600 (1998)
Based Aircraft	none

Sylvester – Sylvester

Owner/operator	City of Sylvester
Location	Box 368 (U.S. 82), Sylvester, GA 31791
Access	U.S. 82/SR 520
Runway(s)	1/19 (3,400'x75')
Terminal s.f.	500
Operations (Year)	3,000 (1998)
Based Aircraft	3

Warm Springs – Roosevelt Memorial

Owner/operator	Meriwether County
Location	P.O. Box 428 (U.S. 27 Alt.), Greenville, GA 30222
Access	U.S. 27 Alt./SR 41
Runway(s)	17/35 (3,000'x75')
Terminal s.f.	100
Operations (Year)	5,000 (1998)
Based Aircraft	4

Waynesboro – Burke County

Owner/operator	Burke County
Location	P.O. Box 89 (U.S. 25), Waynesboro, GA 30830
Access	U.S. 25/SR 21
Runway(s)	8/26 (4,035'x75')
Terminal s.f.	480
Operations (Year)	3,000 (1998)
Based Aircraft	2

Wrens – Wrens Memorial

Owner/operator	City of Wrens
Location	P.O. Box 125 (U.S. 221), Wrens, GA 30833
Access	U.S. 221/SR 47
Runway(s)	11/29 (3,000'x50')
Terminal s.f.	400
Operations (Year)	2,000 (1998)
Based Aircraft	6

Appendix F

*FY 1998 Governor's Regional Airport Enhancement
Program – Airport Summary with Appropriated State
Funds*

FY 1998 Governor's Regional Airport Enhancement Program – Airport Summary with Appropriated State Funds

Americus – Souther Field, \$2,051,625

Runway extension to 5,500 feet; new parallel taxiway; new runway/taxiway lighting; visual approach indicators for each runway end; approach lighting system.

Bainbridge – Decatur County Industrial Airpark, \$724,200

Runway/taxiway extension to 5,500 feet; runway/taxiway lighting; automated weather station; remote communication radio; approach lighting system.

Blakely – Early County Airport, \$1,691,250

Widen runway to 100 feet and extend to 5,500 feet; new parallel taxiway; automated weather station; non-directional radio beacon; remote communications radio; visual approach descent indicators for each runway end; approach lighting system.

Blairsville – Blairsville Airport, \$3,000,000

Strengthen runway, widen to 100 feet, and extend to 5,000 feet.

Calhoun – Tom B. David Airport, \$1,907,175

Widen runway to 100 feet; extend to 5,500 feet; construct partial parallel taxiway; runway and taxiway lights; visual approach descent indicators for both runway ends; automated weather station; remote communications radio; approach lighting system.

Carrollton – West Georgia Regional Airport, \$666,180

Extend runway and parallel taxiway to 5,500 feet; runway and taxiway lighting; approach lighting system.

Cornelia – Habersham County Airport, \$3,423,375

Strengthen runway, widen to 100 feet and extend to 5,500 feet; construct partial parallel taxiway; runway and taxiway lights; relocate non-directional radio beacon; install automated weather station, remote communication radio and approach lighting system.

Covington – Covington Municipal Airport, \$1,830,150

Widen runway to 100 feet; extend runway and taxiway to 5,500 feet; install runway and taxiway lighting, remote communications radio and approach lighting system.

Dalton – Dalton Municipal Airport, \$506,400

Extend runway and taxiway to 5,500 feet; install runway and taxiway lighting, visual approach descent indicators at both runway ends and approach lighting system.

Douglas – Douglas Municipal Airport, \$2,104,500

Extend runway to 5,500 feet; construct new parallel taxiway; install runway and taxiway lighting, visual approach descent indicators at both runway ends and approach lighting system.

Dublin – W.H. “Bud” Barron Airport, \$366,375

Construct new partial parallel taxiway; install a new runway and taxiway lighting system and visual approach descent indicators at both runway ends.

Eastman – Heart of Georgia Regional Airport, \$3,296,127

Construct a new 5,500-foot runway and convert the existing runway into a full parallel taxiway; install a new runway and taxiway lighting system, a remote communications radio, and approach lighting system.

Gainesville – Lee Gilmer Memorial Airport, \$2,306,250

Extend runway to 5,800 feet; construct a new parallel taxiway; install runway and taxiway lighting, new wind cone and segmented circle, visual approach descent indicators at both runway ends and approach lighting system.

Jesup – Wayne County Airport, \$635,250

Widen runway to 100 feet; extend to 5,500 feet; install runway lighting, remote communications radio, visual approach descent indicators at each runway end, automated weather station and approach lighting system.

LaGrange – Callaway Airport, \$30,000

Install visual approach descent indicators at each runway end.

Louisville – Louisville Municipal Airport, \$1,683,750

Widen runway to 100 feet; extend to 5,500 feet; install runway lighting, visual approach descent indicator for the extended runway end, a non-directional radio beacon, remote communications radio, automated weather station and approach lighting system.

Milledgeville – Baldwin County Airport, \$1,669,500

Extend runway to 5,500 feet; construct new parallel taxiway; install runway and taxiway lighting, visual approach descent indicators at both runway ends, remote communications radio, automated weather station and approach lighting system.

Newnan – Coweta County Airport, \$952,800

Extend runway to 5,500 feet; widen the existing taxiway; install runway and taxiway lighting, remote communications radio and approach lighting system.

Rome – Richard B. Russell Airport, \$187,500

Construct a new partial parallel taxiway and install a visual approach descent indicators at each runway end on Runway 1/19.

Statesboro – Statesboro Municipal Airport, \$791,250

Extend runway to 6,000 feet; install runway and taxiway lighting, visual approach descent indicators at each runway end, and approach lighting system.

Thomaston – Upson County Airport, \$987,750

Extend runway to 5,500 feet; install runway and taxiway lighting and approach lighting system.

Thomasville – Thomasville Municipal Airport, \$247,500

Widen the parallel taxiway and install an approach lighting system.

Thomson – McDuffie County Airport, \$993,750

Extend runway to 5,500 feet; construct a new partial parallel taxiway; install runway and taxiway lights, visual approach descent indicator for each runway end, a remote communications radio and relocate the wind cone and segmented circle.

Tifton – Henry Tift Meyers Airport, \$576,000

Extend runway to 5,500 feet; install runway and taxiway lighting, visual approach descent indicator for each runway end and relocate the localizer.

Vidalia – Vidalia Municipal Airport, \$1,072,268

Extend runway to 5,500 feet; construct full parallel taxiway; install runway and taxiway lights, visual approach descent indicators for each runway end, remote communications radio and approach lighting system.

Waycross – Barrow County Airport, \$326,250

Extend runway to 5,500 feet; construct a new partial parallel taxiway; install runway and taxiway lighting, visual approach descent indicators for each runway end and a remote communications radio.

Winder – Barrow County Airport, \$326,250

Extend the partial parallel taxiway to 5,500 feet; install taxiway lighting, visual approach descent indicators for each runway end, automated weather station, remote communications radio.

Appendix G

Glossary of Port Terminology

Glossary of Port Terminology

Berth – The water area adjoining a wharf where a vessel is moored for unloading and loading. Key attributes of a berth are its depth and length, both of which affect the size and type of vessel that can be accommodated. A very large container ship or bulk tanker may require 1,000' of berthing and up to 50' of water depth at berth and in navigation channels.

Bunkers – Diesel fuel for vessels. “Bunkering” is the act of taking on fuel. “Bunker barges” are frequently used to transport fuel within port complexes.

Containerized Cargo – Any cargo moved inside a metal shipping container capable of being lifted onto, off of or between a vessel, truck chassis, and/or rail car.

Domestic Cargo – Cargo with an origin and destination within the United States.

Dry Bulk – Any cargo that is transferred directly to and from a vessel in dry form without use of bags or other form of packaging. This is typical for cargoes such as coal, petroleum coke, salt, sand, and gravel.

General Cargo – Any cargo other than liquid or dry bulk can be referred to as general cargo. General cargo can be handled in several ways – in containers, or as “break bulk” (which is the handling of bags, sacks, pallets, barrels or other small units), or as “neo bulk” (which is the handling of larger, heavier units of cargo such as coiled steel, rolled paper, and large machinery), or as “Roll-on/Roll-off” or “Ro-Ro” cargo (which is driven onto or off of a vessel, such as automobiles or boats on trailers).

Intermodal Rail – A railyard for the transfer of containers between railcars and trucks or railcars and vessels. Intermodal rail services include: Container on Flatcar, or COFC (a container is placed on a rail flatcar); Trailer on Flatcar, or TOFC (a container and its attached truck chassis are placed on a rail flatcar); and Double Stack, or DST (a container is placed in a specialized “deep well” car, and a second container is placed on top of the first). TOFC and COFC services generally require rail lines with vertical clearances of 17'-6" and DST services generally require 20'-6" clearances at a minimum.

International or Foreign Cargo – Cargo with an origin or destination outside of the United States.

Liquid Bulk – Any cargo that is transferred directly to and from a vessel in liquid form without use of barrels or other forms of packaging. This is typical for cargoes such as crude and refined petroleum.

Private Terminals – Facilities not owned by a public agency. Such facilities may serve a single purpose for a single owner/operator (such as a fuel dock adjoining a power plant),

or they may be open to multiple users (these are sometimes called public terminals in the sense of being open to the public). All non-GPA facilities in Georgia are considered private terminals.

Public Terminals – Facilities owned by a public agency, such as the Georgia Ports Authority (GPA) facilities in Savannah, Brunswick, Bainbridge, and Columbus. Such facilities may be open to multiple users (“common user” terminals), or leased and controlled in total or in part by a single user.

Receipt, Inbound, Import – Cargo moving from a vessel to a port. “Import” refers specifically to international cargo.

Shipment, Outbound, Export – Cargo moving from a port to a vessel. “Export” refers specifically to international cargo.

Twenty-Foot Equivalent Unit, or TEU – A measure of the number of containers handled. The majority of containers are 40’ in length (two TEUs), but international containers can range from 20’ (one TEU) up to 45’ in length.

Appendix H

Companion to Section 6.0, Ports

Table H.1 Terminal Facilities and Access Systems, Port of Savannah

Terminal Name and Owner	Location	Terminal Type	Primary Features	Vessel Access	Major Truck Access	Rail Access	Pipelines
Georgia Ports Authority, Container Port (GPA)							
Georgia Ports Authority, Garden City Ammonia Dock (GPA)	Right bank, Savannah River, above U.S. 17-A, Savannah	Receipt of anhydrous ammonia	600-foot berthing space 1 storage tank, capacity of 50,000 tons	—-foot channel; — feet at berth		Trackage into terminal, Savannah State Docks Railroad, connecting to NS and CSXT	One 12-inch pipeline between wharf and on-terminal storage
Georgia Ports Authority, Garden City Dry Bulk Wharf (GPA)							
Georgia Ports Authority, Ocean Terminal (GPA)							
Amoco Oil Co., Savannah Refinery Wharf (Amoco Oil)	Right bank, Savannah River, approx. 1.8 miles above U.S. 17-A, Savannah	Receipt of crude oil; shipment of petroleum products and asphalt	675-foot berthing space 26 storage tanks for asphalt, crude oil, petroleum	—-foot channel; 32 feet at berth		Three tracks into terminal, connecting with NS and CSXT	One 18-inch, one 12-inch and two 10-inch pipelines between wharf and on-terminal storage tanks
Colonial Oil Industries, Savannah Plant #1, Barge Wharf and Upper Wharf (Colonial Oil)	Right bank, Savannah River, approx. 0.7 miles above U.S. 17-A, Savannah	Loading bunker barges; receipt and shipment of petroleum products, petrochemicals and chemicals	794-foot berthing space 50 steel storage tanks, capacity of 1,525,000 barrels (approx. 64,050,000 gallons)	—-foot channel; 38 feet at berth		Two tracks into terminal, connecting with NS	Two 12-inch, one 10-inch, nine 8-inch, thirteen 6-inch and two 4-inch pipelines between wharf and on-terminal storage
Colonial Oil Industries, Savannah	Right bank, Savannah	Bunkering vessels at berth;	1,400-foot berthing space	—-foot channel; 38 feet at berth		Two tracks into terminal,	One 12-inch, eight 10-inch

Plant #2 Wharf (Colonial Oil)	River, approx. 1.3 miles above U.S. 17-A, Savannah	receipt and shipment of liquid and dry bulk, inc. kaolin clay, urea, petroleum and petrochemicals Inactive	23 steel storage tanks, capacity of 500,000 barrels (approx. 21,000,000 gallons)	—-foot channel; 10-20 feet at berth	connecting with NS and CSXT and two 8-inch pipelines between wharf and on-terminal storage tanks
Diamond Manufacturing Co. Wharf (Diamond Manufacturing)	Right bank, Savannah River, just above U.S. 17-A, Savannah	Inactive	510-foot berthing space	—-foot channel; 10-20 feet at berth	One track into terminal, connecting with NS
Gold Bond Building Products, Savannah Plant Wharf (Gold Bond Division, National Gypsum)	Right bank, Savannah River, above U.S. 17-A, Savannah	Receipt of gypsum rock, bauxite and asphalt oil	650-foot berthing space Open storage with capacity of 100,000 tons gypsum; 3 storage tanks for asphalt	—-foot channel; 28 feet at berth	Trackage into terminal, connecting with NS
Atlantic Wood Industries Wharf (Atlantic Wood Industries)	Right bank, Savannah River, above U.S. 17-A, Port Wentworth	Shipment and occasional receipt of timber and timber products	400-foot berthing space Approx. 35 acres open storage	—-foot channel; 26 feet at berth	Tracks into terminal, connecting with NS
Georgia Pacific Corp., Savannah Wharf and Savannah Saw Mill Dock (Georgia Pacific Corp.)	Right bank, Savannah River, above U.S. 17-A, Port Wentworth	Receipt and shipment of general cargo, paper rolls, lumber, plywood, supplies and equipment; mooring of vessels	1,350-foot berthing space 60 acres open storage and transit shed	—-foot channel; 8-25 feet at berth	Tracks into terminal, connecting with NS
Koch Materials Co. Dock (Koch Materials)	Right bank, Savannah River, above U.S. 17-A, Port Wentworth	Receipt of asphalt	680-foot berthing space 24 steel storage tanks, capacity of 245,000 barrels (approx. 10,290,000	—-foot channel; 30 feet at berth	None
					One 12-inch and two 10-inch pipelines between wharf and on-terminal storage

Savannah Electric and Power Co., Port Wentworth Station (SEPCO)	Right bank, Savannah River, above U.S. 17-A, Port Wentworth	Receipt of fuel oil by barge for consumption by plant	200-foot berthing space 2 steel storage tanks, capacity of 50,000 barrels (approx. 2,100,000 gallons)	—-foot channel; 10 feet at berth	Trackage into terminal, connecting with NS	One 6-inch pipeline between wharf and on-terminal storage
Blue Circle Atlantic Wharf (Blue Circle)	Left bank, Savannah River, below U.S. 17-A, Hutchinson Island	Receipt of bulk cement	600-foot berthing space 16 concrete silos, capacity of 30,800 tons	—-foot channel, 36 feet at berth	Tracks into terminal, connecting with NS	Four 12-inch pipelines between wharf and on-terminal silos
Chevron USA, Savannah Light Bulk Facility Dock (Chevron)	Right bank, Savannah River, below U.S. 17-A, Savannah	Receipt of petroleum products	600-foot berthing space 11 steel storage tanks, capacity of 307,700 barrels (approx. 12,923,400 gallons)	—-foot channel, 29 feet at berth	None	Three 12-inch and one 8-inch pipeline between wharf and on-terminal storage tanks
Domtar Gypsum Savannah River Dock (Domtar)	Right bank, Savannah River, below U.S. 17-A, Savannah	Receipt of gypsum rock	746-foot berthing space Open storage, capacity of 250,000 tons gypsum	—-foot channel; 33 feet at berth	Track into terminal, connecting with CSXT	None
Gary Concrete Products Barge Slip (Gary Concrete)	Right bank, Savannah River, below U.S. 17-A, Savannah	Shipment of pre-cast concrete products by barge	400-foot berthing space 7 acres open storage	—-foot channel; 7-10 feet at berth	Track into terminal, connecting with CSXT	None
Powell-Duffryn Terminals Wharf (Powell-Duffryn)	[HUTCHINSON ISLAND ?]	Receipt and shipment of chemicals and misc. liquid bulk commodities	1,030-foot berthing space 23 steel storage tanks, capacity of 21,000,000 gallons 850-foot berthing space 8 steel storage	—-foot channel; 16-38 feet at berth	Two tracks into terminal, connecting with CSXT	One 12-inch and four 6-inch pipelines between wharf and on-terminal storage One 18-inch, one 16-inch and one 6-inch
[Savannah Marine Serv./Powell Duffryn]	Right bank, Savannah River, below	Receipt and shipment of petroleum		—-foot channel; 40 feet at berth	One track into terminal, connecting with	

U.S. 17-A, Savannah	products; mooring of vessels; handling of construction equipment	tanks	CSXT	pipeline between wharf and on-terminal storage
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Sources: U.S. Army Corps of Engineers, Port Series #14; Georgia Ports Authority.

Table H.2 Commodity Flows (Thousand Short Tons), Port of Savannah, CY 1998

Terminal	Commodity	Grand Total	Foreign		Domestic		Internal	
			Imports	Exports	Inbound	Outbound	Receipts	Shipments
Entire Port of Savannah (including public and private terminals)	Total, All Commodities	17,710,000	8,279	6,296	2,125	687	9	160
	Coal	372	3	0	0	0	6	140
	Crude Petroleum	662	0	0	0	0	0	0
	Petroleum Products	812	54	1,062	557	0	0	0
	Fertilizers	13	5	6	0	3	0	0
	Other Chemicals and Related	787	509	513	1	0	0	0
	Forest Products, Wood and Chips	224	335	0	0	0	0	0
	Pulp and Waste Paper	10	677	0	0	0	0	0
	Sand, Gravel, Rock, Stone	928	105	0	0	0	0	0
	Iron Ores and Scrap	1	6	0	0	0	0	0
	Non-ferrous Ores and Scrap	185	24	0	0	0	0	0
	Sulphur, Clay, Salt	8	2,642	0	0	0	0	0
	Slag	33	2	0	0	0	0	0
	Non-metallic Minerals	322	5	0	0	0	0	0
	Paper Products	63	886	0	0	0	0	0
	Lime, Cement, Glass	701	50	45	0	0	7	0
	Primary Iron and Steel Products	799	12	0	0	0	0	0
	Primary Non-ferrous Metal Products	235	47	41	3	0	0	0
	Primary Wood Products	179	10	0	0	0	13	0
	Fish	10	0	0	0	0	0	0
	Grain	3	6	0	0	0	0	0
	Oilseeds	18	11	0	0	0	0	0
	Vegetable Products	87	27	0	0	0	0	0
	Processed Grain and Animal Feed	11	27	0	0	0	0	0
	Other Agricultural Products	413	321	448	0	0	0	0
	Manufactured Machinery, Not Elec.	390	146	0	0	0	0	0
	Manufactured Machinery, Electrical	137	78	0	0	0	0	0
	Vehicles and Parts	51	48	0	0	0	0	0
	Textile Products	223	154	0	0	0	0	0
	Rubber and Plastic Products	134	39	0	0	0	0	0
	Other Manufactured and Products	325	48	10	126	0	1	0
	Unknown/Not Elsewhere Classified	21	19	0	0	0	0	0

[SEE FOLLOWING TABLE FOR BREAKDOWN]

Georgia Ports Authority	
Container Port	
Ocean Terminal	
Active Private Terminals	
Inactive Terminals	0

Sources: U.S. Army Corps of Engineers, Port Series #14 and Waterborne Commerce of the United States, 1998; Georgia Ports Authority.

Table H.3 GPA Terminal Throughput (Short Tons) Over the Wharf, CY 1998 – Savannah

Facility	Commodity/ Handling Type	Foreign		Domestic		Total	
		Import	Export	Inbound	Outbound	Receipts	Shipments
Container Port	Tonnage (total)						
	Tonnage of leading commodities (top 5)						
	Tonnage by handling type, if available						
	• Container						
	• General						
	• Liquid Bulk						
Ocean Terminal	• Dry Bulk						
	• Ro-ro						
	Containers (TEUs)						
	Ro-ro Units						
	Tonnage (total)						
	Tonnage of leading commodities (top 5)						
	Tonnage by handling type, if available						
	• Container						
	• General						
	• Liquid Bulk						
	• Dry Bulk						
	• Ro-ro						
	Containers (TEUs)						
	Ro-ro Units						

Table H.4 Terminal Traffic, Port of Savannah, CY 1998

Terminal Name and Owner	Vessel Calls	Truck Moves	Physical and Operating Characteristics of Connectors to Regional Highway Network	Loaded Railcars	Inland Pipeline Transfer
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Sources: _____.

Table H.5 Anticipated Improvements, Port of Savannah

Terminal Name and Owner	Terminal Facilities	Channel and Berths	Highways and Connectors	Rail System	Pipeline Transfer
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Sources: _____.

Table H.6 Terminal Facilities and Access Systems, Port of Brunswick

Terminal Name and Owner	Location	Terminal Type	Primary Features	Vessel Access	Major Truck Access	Rail Service	Pipelines
Georgia Ports Authority, Mayor's Point Terminal (GPA)	Left bank, East River, Brunswick	Shipment of forest products (general cargo and roll-on/roll-off)	1,750 feet berthing space 22 acres total, with 8 acres open storage and 305,000 square feet covered storage	30-foot channel; 30 feet at berth		One track into terminal, connecting with NS and CSXT	
Georgia Ports Authority, Colonel's Island Terminal (GPA)	Right bank, Brunswick River, Brunswick	Receipt of automobiles and transport equipment; shipment of bulk farm products, sand (roll-on/roll-off, dry bulk)	1,300 feet berthing space 345 acres, with 221 acres open vehicle storage and 46,000 ton covered bulk storage	30-foot channel; 30-36 feet at berth		Multiple tracks into terminal, Colonels' Island RR connecting with CSXT and NS, on-dock auto and bulk rail transfer yards	
Georgia Ports Authority, Marine Port Terminals Inc. (GPA)	Left bank, East River, Brunswick	Receipt of gypsum and petroleum products; shipment of forest products (general cargo, roll-on/roll-off, liquid and dry bulk)	2,415 feet berthing space 145 acres, with 491,000 square feet of covered storage; 3 steel storage tanks	30-foot channel; 30 feet at berth		Multiple tracks into terminal, connecting with NS and CSXT	One 14-inch pipeline between wharf and on-terminal storage tanks
Hercules Inc., Brunswick Wharf (Hercules, Inc.)	Right bank, Dupree Creek, Brunswick	Receipt of tree stumps, bunkering of vessels from fuel trucks	313-foot berthing space 20 acres open storage	10-foot channel; 10 feet at berth		One track into terminal, connecting with CSXT	None
Burgess Seafood Place Landing (Burgess Seafood Place)	Left bank, Academy Creek, Brunswick	Receipt of seafood, fishing boat mooring	150-foot berthing space	24-foot channel; 6 feet at berth		None	None
Georgia Power Co. Oil Dock (Georgia Power) Et al.	Left bank, Turtle River, Brunswick						

Sources: U.S. Army Corps of Engineers, Port Series #14, 1998 and Georgia Ports Authority.

Table H.7 Commodity Flows (1,000 Short Tons), Port of Brunswick, 1998

Terminal	Commodity	Grand Total	Inbound (Upbound)	Outbound (Downbound)	Intra-ACF (Downbound)
Entire Port of Brunswick (including public and private ports)	Total, All Commodities				
	Petroleum Products				
	Fertilizers				
	Other Chemicals and Related				
	Forest Products, Wood and Chips				
	Sand, Gravel, Rock, Stone				
	Sulphur, Clay, Salt				
	Grain				
	Oilseeds				
Georgia Ports Authority Active Private Terminals Inactive Terminals			[BREAKDOWN TO BE PROVIDED BY GPA] [TOTAL MINUS GPA]		
	Inactive	0			

Sources: U.S. Army Corps of Engineers, Port Series #19 and Waterborne Commerce of the United States, 1998; Georgia Ports Authority.

**Table H.8 GPA Terminal Throughput (Short Tons) Over the Wharf, CY 1998 –
Brunswick**

Facility	Commodity/ Handling Type	Foreign		Domestic		Total	
		Import	Export	Inbound	Outbound	Receipts	Shipments
Mayor's Point	Tonnage (total)						
	Tonnage of leading commodities (top 5)						
	Tonnage by handling type, if available						
	• General						
	• Liquid Bulk						
Colonel's Island	• Dry Bulk						
	• Ro-ro						
	Ro-ro Units						
	Tonnage (total)						
	Tonnage of leading commodities (top 5)						
	Tonnage by handling type, if available						
	• General						
	• Liquid Bulk						
	• Dry Bulk						
	• Ro-ro						
	Ro-ro Units						

Marine Port Terminal	Tonnage (total)
	Tonnage of leading commodities (top 5)
	Tonnage by handling type, if available
	<ul style="list-style-type: none">• General• Liquid Bulk• Dry Bulk• Ro-ro
	Ro-ro Units

Table H.9 Terminal Traffic, Port of Brunswick, CY 1998

Terminal Name and Owner	Vessel Calls	Truck Moves	Physical and Operating Characteristics of Connectors to Regional Highway Network	Loaded Railcars	Inland Pipeline Transfer
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Sources: _____.

Table H.10 Anticipated Improvements, Port of Brunswick

Terminal Name and Owner	Terminal Facilities	Channel and Berths	Highways and Connectors	Rail System	Pipeline Transfer
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Table H.11 Terminal Facilities and Access Systems, Port of Bainbridge

Terminal Name and Owner	Location	Terminal Type	Primary Features	Vessel Access	Major Truck Access	Rail Service	Pipelines
Ergon Bainbridge Terminal Wharf (Ergon, Inc.)	Mile 26.1, right bank, Flint River, approx. 1.2 miles below U.S. 27/84 Bridge, Bainbridge	Receipt of liquid asphalt	250-foot berthing space 7 steel storage tanks, capacity of 135,000 barrels (approx. 5,670,000 gallons)	9-foot channel; 8 feet at berth	GA 253 via U.S. 27/84; from U.S. 27, approx. 38 miles to I-10	None on site	One 6-inch line between wharf and on-terminal storage
Georgia Ports Authority, Bainbridge State Docks (GPA)	Mile 26.4, right bank, Flint River, approx. 1.0 miles below U.S. 27/84 Bridge, Bainbridge	Receipt of dry bulk fertilizer, gypsum, and liquid fertilizer; shipment of cottonseed and cypress mulch	400-foot berthing space 107 acres total terminal area, with 100,000 square feet covered storage 5 steel storage tanks, capacity of 7,500,000 gallons	9-foot channel; 9 feet at berth	GA 253 via U.S. 27/84; from U.S. 27, approx. 38 miles to I-10	One track into terminal, connecting with CSXT	One 8-inch and one 6-inch line between wharf and on-terminal storage tanks
Liquid Transfer Terminals, Bainbridge Terminal Dock (Liquid Transfer Terminals, Inc.)	Mile 27.0, right bank, Flint River, approx. 0.4 miles below U.S. 27/84 Bridge, Bainbridge	Receipt of liquid fertilizer	150-foot berthing space 6 steel storage tanks, capacity of 9,000,000 gallons	9-foot channel; 10 feet at berth	GA 253 via U.S. 27/84; from U.S. 27, approx. 38 miles to I-10	Two tracks into terminal, connecting with CSXT; storage for 9 cars	Two 6-inch lines between wharf and on-terminal storage tanks
McKenzie Service Company, Bainbridge Terminal Dock (McKenzie Service Co.)	Mile 27.3, right bank, Flint River, approx. 0.2 miles below U.S. 27/84 Bridge, Bainbridge	Receipt of liquid fertilizer	40-foot berthing space 5 steel storage tanks, capacity of 9,000,000 gallons	9-foot channel; 10 feet at berth	GA 253 via U.S. 27/84; from U.S. 27, approx. 38 miles to I-10	One track into terminal, connecting with CSXT; storage for 7 cars	One 8-inch line between wharf and on-terminal storage tanks

Sources: U.S. Army Corps of Engineers, Port Series #19, 1998 and Georgia Ports Authority.

Table H.12 Terminal Facilities and Access Systems, Port of Columbus

Terminal Name and Owner	Location	Terminal Type	Primary Features	Vessel Access	Major Truck Access	Rail Service	Pipelines
Georgia Ports Authority, Columbus Terminal Wharf (GPA)	Mile 154.5, left bank, Chattahoochee River, approx. 1.5 miles below U.S. 280 Bridge, Columbus	Unused; covered storage leased to private operator	402-foot berthing space 27,300 square feet covered storage	9-foot channel; 18 feet at berth	U.S. 27/280; from U.S. 27, approx. 5 miles to I-185	Two tracks into terminal, connecting with Georgia Southwestern Railroad	None
ST Services, Columbus Terminal Dock (GPA)	Mile 154.7, left bank, Chattahoochee River, approx. 1.3 miles below U.S. 280 Bridge, Columbus	Receipt of petroleum products	200-foot berthing space 25 steel storage tanks, capacity of 180,000 barrels (approx. 7,560,000 gallons)	9-foot channel; 18 feet at berth	U.S. 27/280; from U.S. 27, approx. 5 miles to I-185	Four tracks into terminal, connecting with Georgia Southwestern Railroad; storage for 24 cars	Fourteen 6-inch pipelines between wharf and on-terminal storage tanks
Georgia Tubing Co. Wharf, Cedar Springs (Georgia Tubing Co.)	Mile 37.0, left bank, Chattahoochee River, Cedar Springs	Unused; intended for receipt of steel	125-foot berthing space	9-foot channel; 12 feet at berth	GA 370 via U.S. 84	One track into terminal, connecting with Chattahoochee Industrial Railroad	None
Georgia Pacific Corp., Cedar Springs Wharf (Georgia Pacific)	Mile 39.8, left bank, Chattahoochee River, Cedar Springs	Unused; intended for receipt of fuel oil	300-foot berthing space 2 steel storage tanks, capacity of 100,000 barrels (approx. 4,200,000 gallons)	9-foot channel; 10 feet at wharf	GA 370 via U.S. 84	Track (number unknown) into terminal, connecting with Chattahoochee Industrial Railroad	One 6-inch pipelines between wharf and on-terminal storage tanks

Sources: U.S. Army Corps of Engineers, Port Series #19, 1998 and Georgia Ports Authority.

Table H.13 Commodity Flows (1,000 Short Tons), ACF System, 1998

Terminal	Commodity	Grand Total	Inbound (Upbound)	Outbound (Downbound)	Intra-ACF (Downbound)
Entire ACF System (including public and private ports in Georgia, Alabama and Florida)	Total, All Commodities	443	182	11	250
	Petroleum Products	65	65	0	0
	Fertilizers	91	91	0	0
	Other Chemicals and Related	10	10	0	0
	Forest Products, Wood and Chips	2	0	2	0
	Sand, Gravel, Rock, Stone	263	13	0	250
	Sulphur, Clay, Salt	3	3	0	0
	Grain	7	0	7	0
	Oilseeds	3	0	3	0
	Receipt of dry bulk fertilizer, gypsum, liquid fertilizer and petroleum products; shipment of cottonseed and cypress mulch	65	[BREAKDOWN TO BE PROVIDED BY GPA]		
Georgia Ports Authority Bainbridge State Docks Columbus Terminal Wharf Columbus Terminal Dock					
Other Public Terminals Alabama State Docks, Columbia Alabama State Docks, Eufala Active Private Terminals Martin-Marietta Aggregates (FL) Cargill Blountstown (FL) Ergon Bainbridge (GA) Liquid Transfer Terminals (GA) McKenzie Service Co. (GA) Stratus Petroleum, Blakely (AL) Inactive Terminals Jackson Co. Port Authority (FL) Alabama State Docks Phenix City Georgia Tubing Corp. GA) South GA Natural Gas Co. (AL) GA Pacific Cedar Springs (GA) Farley Nuclear Plant (AL)	Dry bulk, fertilizer, gypsum, grain General cargo, dry bulk		[BREAKDOWN TO BE PROVIDED BY ASD]		
	Sand and gravel Grain Liquid asphalt Liquid fertilizer Liquid fertilizer Petroleum products		[TOTAL MINUS GPA MINUS ASD]		
	Inactive	0			

Sources: U.S. Army Corps of Engineers, Port Series #19 and Waterborne Commerce of the United States, 1998; Georgia Ports Authority.

**Table H.14 GPA Terminal Throughput (Short Tons) Over the Wharf, CY 1998 –
Bainbridge and Columbus**

Facility	Commodity/ Handling Type	Foreign		Domestic		Total	
		Imports	Exports	Inbound	Outbound	Receipts	Shipments
Bainbridge State Docks	Tonnage (total)						
	Tonnage of leading commodities (top 5)						
	Tonnage by handling type, if available						
	• General						
Columbus Terminal Wharf	• Liquid Bulk						
	• Dry Bulk						
	Tonnage (total)						
	Tonnage of leading commodities (top 5)						
Columbus Terminal Docks	Tonnage by handling type, if available						
	• General						
	• Liquid Bulk						
	• Dry Bulk						
	Tonnage (total)						
	Tonnage of leading commodities (top 5)						
	Tonnage by handling type, if available						
	• General						
	• Liquid Bulk						
	• Dry Bulk						
	Tonnage (total)						
	Tonnage of leading commodities (top 5)						
	Tonnage by handling type, if available						
	• General						
	• Liquid Bulk						
	• Dry Bulk						

Table H.14 Terminal Traffic, Ports of Bainbridge and Columbus, 1998

Terminal Name and Owner	Vessel Calls	Truck Moves	Physical and Operating Characteristics of Connectors to Regional Highway Network	Loaded Railcars	Inland Pipeline Transfer
Ergon Bainbridge Terminal Wharf (Ergon, Inc.)					
Georgia Ports Authority, Bainbridge State Docks (GPA)					
Liquid Transfer Terminals, Bainbridge Terminal Dock (Liquid Transfer Terminals, Inc.)					
McKenzie Service Company, Bainbridge Terminal Dock (McKenzie Service Co.)					
Georgia Ports Authority, Columbus Terminal Wharf (GPA)					
ST Services, Columbus Terminal Dock (GPA)					
Georgia Tubing Co. Wharf, Cedar Springs (Georgia Tubing Co.)					
Georgia Pacific Corp., Cedar Springs Wharf (Georgia Pacific)					

Sources: _____.

Table H.15 Anticipated Improvements, Ports of Bainbridge and Columbus

Terminal Name and Owner	Terminal Facilities	Channel and Berths	Highways and Connectors	Rail System	Pipeline Transfer
Ergon Bainbridge Terminal Wharf (Ergon, Inc.)					
Georgia Ports Authority, Bainbridge State Docks (GPA)					
Liquid Transfer Terminals, Bainbridge Terminal Dock (Liquid Transfer Terminals, Inc.)					
McKenzie Service Company, Bainbridge Terminal Dock (McKenzie Service Co.)					
Georgia Ports Authority, Columbus Terminal Wharf (GPA)					
ST Services, Columbus Terminal Dock (GPA)					
Georgia Tubing Co. Wharf, Cedar Springs (Georgia Tubing Co.)					
Georgia Pacific Corp., Cedar Springs Wharf (Georgia Pacific)					

Sources: _____.